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Title 12—BANKS AND BANKING

Chapter V—Federal Home Loan Bank Board

SUBCHAPTER C—FEDERAL SAVINGS AND LOAN SYSTEM

[No. 12144]

PART 541—DEFINITIONS

PART 545—OPERATIONS

Amendments Relating to Loans

DECEMBER 31, 1958.

Resolved that the Federal Home Loan Bank Board, upon the basis of consideration by it of the advisability of amendment of §§ 541.15, 541.16, and 545.8 of the rules and regulations for the Federal Savings and Loan System (12 CFR 541.15, 541.16, and 545.8) as hereinafter set forth, and for the purpose of effecting such amendment, hereby amends said §§ 541.15, 541.16, and 545.8 as follows, effective January 1, 1959:

1. Sections 541.15 and 541.16 aforesaid are hereby each amended by inserting therein, immediately after the language "the Servicemen's Readjustment Act of 1944", the language "or chapter 37 of title 38, United States Code".

2. Section 545.8 aforesaid is hereby amended (a) by inserting in paragraph (a), immediately after the language "the Servicemen's Readjustment Act of 1944", the language "or chapter 37 of title 38, United States Code" and (b) by inserting in the next to last proviso of said section, immediately after the language "the Servicemen's Readjustment Act of 1944" appearing in said proviso, the language "or chapter 37 of title 38, United States Code".

(Sec. 5, 48 Stat. 132, as amended; 12 U. S. C. 1464. Reorg. Plan No. 3 of 1947, 12 F. R. 4981, 3 CFR, 1947 Supp.)

Resolved further that, as said amendments only relieve restriction, the Board hereby finds that notice and public procedure thereon are unnecessary under the provisions of § 508.12 of the general regulations of the Federal Home Loan Bank Board (12 CFR 508.12) or section 4 (a) of the Administrative Procedure Act and, as said amendments relieve restriction, deferment of the effective date thereof is not required under section 4 (c) of said Act.

By the Federal Home Loan Bank Board.

[SEAL] HARRY W. CAULSEN, *Secretary.*

[F. R. Doc. 59-151; Filed, Jan. 6, 1959; 8:51 a. m.]

SUBCHAPTER D—FEDERAL SAVINGS AND LOAN INSURANCE CORPORATION

[No. FSLIC-583]

PART 563—OPERATIONS

Amendments Relating to Loans

DECEMBER 31, 1958.

Resolved that the Federal Home Loan Bank Board, upon the basis of consideration by it of the advisability of amendment of §§ 563.9 and 563.10 of the rules and regulations for Insurance of Accounts (12 CFR 563.9 and 563.10) as hereinafter set forth, and for the purpose of effecting such amendment, hereby amends said §§ 563.9 and 563.10 as follows, effective January 1, 1959:

1. Section 563.9 aforesaid is hereby amended (a) by inserting in paragraph (a), immediately after the language "the Servicemen's Readjustment Act of 1944", the language "or chapter 37 of title 38, United States Code" and (b) by inserting in the last proviso of said section, immediately after the language "the Servicemen's Readjustment Act of 1944", the language "or chapter 37 of title 38, United States Code".

2. Section 563.10 aforesaid is hereby amended by inserting in the proviso of said section, immediately after the language "the Servicemen's Readjustment Act of 1944", the language "or chapter 37 of title 38, United States Code".

(Secs. 402, 403, 48 Stat. 1256, 1257, as amended; 12 U. S. C. 1725, 1726. Reorg. Plan No. 3 of 1947, 12 F. R. 4981, 3 CFR, 1947 Supp.)

Resolved further that, as said amendments only relieve restriction, the Board hereby finds that notice and public procedure thereon are unnecessary under the provisions of § 508.12 of the general

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FEDERAL REGISTER

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regulations of the Federal Home Loan Bank Board (12 CFR 508.12) or section 4 (a) of the Administrative Procedure Act and, as said amendments relieve restriction, deferment of the effective date thereof is not required under section 4 (c) of said Act.

By the Federal Home Loan Bank Board.

[SEAL] HARRY W. CAULSEN, *Secretary.*

[F. R. Doc. 59-152; Filed, Jan. 6, 1959; 8:51 a. m.]

Title 14—CIVIL AVIATION

Chapter I—Civil Aeronautics Board

[Reg. SPR-1]

PART 190—AUTHORIZATION OF NAVIGATION OF FOREIGN CIVIL AIRCRAFT WITHIN UNITED STATES

PART 375—AUTHORIZATION OF NAVIGATION OF FOREIGN CIVIL AIRCRAFT WITHIN UNITED STATES

Miscellaneous Amendments

Adopted by the Civil Aeronautics Board at its office in Washington, D. C., on the 31st day of December 1958.

The Federal Aviation Act of 1958 transfers the safety rule-making power from the Board to the Administrator of the Federal Aviation Agency. To implement this change, it will be necessary to revise those parts of the Board's regulations promulgated under the Civil Aeronautics Act which contain both subject-matters remaining within the jurisdiction of the Board, and subject-matters transferred to the Administrator's jurisdiction, so as to state these subject-matters in separate parts.

New Part 375 thus contains the subject-matters in Part 190 of the Civil Air Regulations which remain within the jurisdiction of the Board. These subject-matters comprise not only the economic regulatory provisions in these parts but also the provisions regarding admission to this country of foreign aircraft and their crews on the basis of foreign air safety certificates. The latter remain within the jurisdiction of the Board under section 1108 (b) of the new Act. Any provisions of Part 190 which involve the safety regulatory function are within the jurisdiction of the Administrator. Since new Part 375 contains the provisions of Part 190 which are based on jurisdiction remaining in the Board, those provisions are being repealed, to avoid duplication, effective simultaneously with the new part.

The provisions of Part 190 are being transferred to Part 375 without change of substance. Since the amendment to the regulations is merely a matter of form, public notice thereon is unnecessary and not in the public interest, and the new regulation may be made effective immediately.

In consideration of the foregoing, the Civil Aeronautics Board, effective December 31, 1958, hereby amends its regulations:

1. By repealing Part 190 except §§ 190.2, 190.22, and the footnote and note to § 190.22, of the Civil Air Regulations;

2. Redesignating Subchapter D of the Board's regulations as Subchapter E; and

3. Adding a new subchapter to read as follows:

SUBCHAPTER D—SPECIAL REGULATIONS

PART 375 — AUTHORIZATION OF NAVIGATION OF FOREIGN CIVIL AIRCRAFT WITHIN THE UNITED STATES

Subpart A—General

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375.30 Air transportation.
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Subpart E—Additional Limitations Applicable to Particular Classes of Operations, and Permits Therefor

375.40 Operations not for remuneration or hire.
375.41 Demonstration flights of foreign aircraft.
375.42 Agricultural and industrial operations within the United States.
375.43 Flights incidental to agricultural and industrial operations outside the United States.
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375.45 Transit flights, irregular operations.
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375.49 Contents of reports.
375.50 Keeping of records.

Subpart F—Penalties

375.60 Penalties.

Subpart G—Special Authorization

375.70 Special authorization.

Subpart A—General

§ 375.1 Definitions.

As used in this part:

(a) "Act" means the Federal Aviation Act of 1958;

(b) "Category" shall indicate a classification of aircraft such as airplane, helicopter, glider, etc.;

(c) "Foreign air carrier permit" means a permit authorizing foreign air transportation by a foreign air carrier pursuant to section 402 of the Act;

(d) "Foreign aircraft permit" means a permit authorizing navigation of an aircraft of foreign registry, not a part of the armed forces of a foreign nation, in the United States pursuant to section 1108 (b) of the Act;

(e) "Foreign civil aircraft" means an aircraft of foreign registry which is not part of the armed forces of a foreign nation.

(f) "Type" means all aircraft of the same basic design including all modifications thereto except those modifications which result in a change in handling or flight characteristics.

(g) "Terms defined in section 101 of the Act" have the meaning expressed in such definitions.

§ 375.2 Applicability.

The provisions of this part regulate the navigation in the United States of foreign civil aircraft. This part also contains provisions which specify the extent to which various classes of flight operations by foreign civil aircraft may be conducted, and the terms and conditions applicable to such operations. The regulations in this part do not apply to operations in foreign air transportation conducted under the authority of a foreign air carrier permit issued pursuant to section 402 of the Act.

§ 375.3 Existing permits.

Permits issued by the Board under the provisions of Part 190 of this chapter shall continue in effect in accordance with their terms until their expiration date unless sooner terminated or revoked by the Board.

Subpart B—Authorization

§ 375.10 Civil aircraft registered in ICAO member states.

Subject to the observance of the applicable rules, conditions, and limitations set forth in this part, foreign civil aircraft registered in any foreign country which at the time is a member of the International Civil Aviation Organization created by the Chicago Convention may be navigated in the United States.

§ 375.11 Civil aircraft registered in non-ICAO member states.

Aircraft registered under the laws of foreign countries, not members of the International Civil Aviation Organization created by the Chicago Convention, which the Board has found grant reciprocal treatment to U. S. aircraft and airmen, may be navigated in the U. S. subject to the observance of the same rules, conditions, and limitations applicable in the case of aircraft of ICAO member states.

Subpart C—Rules Generally Applicable

§ 375.20 Airworthiness and registration certificates.

Foreign civil aircraft shall carry aboard currently effective certificates of registration and airworthiness issued or rendered valid by the country of registry and shall display the nationality and registration markings of that country: *Provided, however,* That in cases covered by paragraphs (a) and (b) of this section a special flight permit issued in accordance with §§ 1.76 and 1.77 of this chapter may be carried on board the aircraft in lieu of such certificate of airworthiness:

(a) It has been determined by the country of registry that the aircraft has been damaged to the extent that the airworthiness certificate is invalidated and the aircraft is to be flown to a place where repairs or alterations are to be made, or

(b) The certificate of airworthiness issued for the aircraft has been invalidated by the country of registry due to a change in nationality and such aircraft is intended to be navigated in the United States in transit to the new country of registry.

§ 375.21 Airmen.

Each member of the flight crew of a foreign civil aircraft shall have in his personal possession a valid airman certificate or license authorizing him to perform his assigned functions in the aircraft and for the operation involved issued or rendered valid by the country of registry of the aircraft or by the United States. No such flight crew member shall perform any flight duty within the United States which he is not currently authorized to perform in the country issuing or validating the certificate.

§ 375.22 Flight operations.

Flight of foreign civil aircraft in the United States shall be conducted in accordance with the currently applicable regulations of the Administrator of the Federal Aviation Agency.

§ 375.23 Maximum allowable weights.

Foreign civil aircraft which are permitted to navigate in the United States on the basis of foreign airworthiness certificates shall not be operated in the United States except in accordance with the limitations on maximum certificated weights prescribed or authorized for the particular variation of the type and for the particular category of use, by the country of manufacture of the aircraft type involved.

§ 375.24 Entry and clearance regulations.

All applicable entry and clearance requirements for aircraft, passengers, crews, baggage and cargo shall be followed.

Subpart D—Unauthorized Operations

§ 375.30 Air transportation.

Nothing in this part shall authorize any foreign aircraft to engage in air transportation.

§ 375.31 Unauthorized aircraft.

Foreign civil aircraft which are not authorized to be navigated pursuant to Subpart B of this part shall not be navigated in the United States.

Subpart E—Additional Limitations Applicable to Particular Classes of Operations, and Permits Therefor

§ 375.40 Operations not for remuneration or hire.

Foreign civil aircraft which are not at the time engaged in the carriage of pas-

sengers, cargo or mail for remuneration or hire may be navigated into, out of, and within the United States, and may discharge, take on or carry between points in the U. S. any non-revenue traffic. The use of foreign civil aircraft in demonstration flights, agricultural and industrial operations and flight instruction shall be governed as hereinafter set forth in this subpart.

§ 375.41 Demonstration flights of foreign aircraft.

Flight of foreign civil aircraft within the United States may be made for the purpose of demonstration for sale of the aircraft or any component thereof, provided no persons, cargo or mail are carried for remuneration or hire.

§ 375.42 Agricultural and industrial operations within the United States.

Foreign civil aircraft shall not be used for crop-dusting, pest control, pipeline patrol, banner towing, sky-writing or similar uses within the United States unless special authorization is obtained from the Board and the operation is conducted in accordance with all applicable state and local laws and regulations as well as the applicable provisions of this part. Applications for such authorization shall be submitted at least five days in advance of the date of the commencement of the proposed operation and shall contain a general statement of the facts and the authority desired. The application shall be accompanied by such documentation as may be necessary to establish that reciprocity for similar operations exists in the country of registry of the aircraft. Such additional information as may specifically be requested by the Board shall also be furnished.

§ 375.43 Flights incidental to agricultural and industrial operations outside the United States.

Foreign civil aircraft which are engaged in agricultural or industrial operations to be performed wholly without the United States may be navigated into, out of, and within the United States in connection therewith provided they are not at the time engaged in the carriage of passengers, cargo or mail for remuneration or hire.

§ 375.44 Flight instruction.

Foreign civil aircraft shall not be used within the United States for the purpose of flight instruction for remuneration or hire: *Provided,* That this restriction shall not prevent the giving of indoctrination training in the operation of the aircraft concerned to a buyer or his employees.

§ 375.45 Transit flights, irregular operations.

Foreign civil aircraft carrying persons, property, or mail for remuneration or hire but not engaged in scheduled international air services are authorized to navigate non-stop across the territory of the United States and to make stops for non-traffic purposes. Such aircraft shall not make stops for the purpose of taking on or discharging passengers, cargo or mail, or for other than strictly operational purposes.

§ 375.46 Transit flights: scheduled international air service operations.

An operator of foreign civil aircraft desiring to conduct a scheduled international air service in transit across the United States pursuant to the International Air Services Transit Agreement shall, before commencing operations, obtain the approval of the Administrator for the route or routes proposed to be followed and thereafter shall conduct such operations in accordance with the provisions of that approval. Stopovers for the convenience or pleasure of the passengers are not authorized under this section, and stops other than for strictly operational reasons shall not be made. Operators of aircraft registered in countries not parties to the International Air Services Transit Agreement shall make special application to the Board under § 375.70. The consolidation on the same aircraft of an operation under this section with a service authorized under section 402 of the Act is not authorized by this section.

§ 375.47 Commercial transport operations not in air transportation.

Except for aircraft being operated under a permit issued by the Board pursuant to section 402 of the Act, foreign civil aircraft engaged in flights for remuneration or hire for the purpose of discharging or taking on passengers or cargo at one or more points in the United States may be navigated in the United States only if there is carried on board the aircraft a permit issued by the Board in accordance with this section authorizing the operation involved. Carriage of cargo for the operator's own account is governed by these provisions if the cargo is to be resold or otherwise used in the furtherance of a business.

(a) Application for permit: Application for the permit specified in this section shall be submitted on CAB Form 272 to the Civil Aeronautics Board, addressed to the attention of the Director, Bureau of Air Operations. There shall be enclosed with the application a copy of each contract between the operator and each person for whose account the flight or flights is or are to be performed. If any flight is to be performed in whole or in part for the account of the operator personally, there shall also be enclosed a full and complete description of the operation and copies of all contracts relating to the acquisition and disposition of the cargo. In any case, the beneficial owner of the cargo shall be disclosed. Copies of contracts covering proposed operations which have previously been filed with the Board in connection with a prior application need not be filed again. Applications shall be filed with the Board at least 14 days in advance of the date of the commencement of the proposed operation: *Provided,* That, for good cause shown and upon a finding by the Board that the waiver of this requirement is in the interest of the public, an application filed less than 14 days in advance of the date of the commencement of the proposed operation will be considered by the Board.[1]

(b) Except to the extent that the Board directs that such information be withheld from public disclosure for reasons of national defense or as hereinafter specified in this paragraph, every application and its supporting documents filed pursuant to this section shall be open to public inspection, and notice thereof, in the case of application for 10 or more flights in any 90-day period, shall be published in the Board's Weekly List of Applications Filed. Any person may make written objection to the Board to the public disclosure of such information or any part thereof, stating the grounds for such objection. If the Board finds that a disclosure of such information or part thereof would adversely affect the interests of such person and is not required in the interest of the public, it will order that such information or part be so withheld.

(c) Issuance of permit: If upon examination of the application, all supporting documents and other information available to it, the Board is of the opinion that the application is in order and that the proposed operation either by itself or in conjunction with other operations of the operator to or from the United States is in the interest of the public and does not disclose any apparent violation of section 402 of the Act, or any other applicable provision of law, it will issue a permit for a period not in excess of 90 days, to the applicant authorizing the conduct of the flights set forth in the application.

(d) Nature of privilege conferred by permit: The provisions of this section and of any permit issued hereunder, together with section 1108 (b) of the Act, are designed, among other purposes, to carry out the international undertakings of the United States in the Chicago Convention, in particular Article 5 thereof. That Article accords to foreign aircraft the privilege of "Taking on or discharging passengers, cargo or mail" subject to the right of the State where such embarkation or discharge takes place to impose such regulations, conditions or limitations as it may consider desirable. The Congress by the 1953 amendment to section 6 of the Air Commerce Act of 1926, now designated as section 1108 (b) of the Act, has authorized the Board to permit such operations only where conditions of reciprocity and the interest of the public in the United States are met. It is incompatible with the intent of this legislation and the nature of the function involved to regard the operator of any foreign registered aircraft as entitled as a matter of right to the issuance, renewal or freedom from modification or change in a permit issuable pursuant to this authority. Accordingly, any permit issued under this part may be withheld, revoked, amended, modified, restricted, suspended, withdrawn, or cancelled by the Board in the interest of the public of the United States, without notice or hearing and without the right in the

[1] Application may be filed directly with the Board and need not be filed via diplomatic channels.

holder to challenge the Board's discretion.

§ 375.48 Reports to be filed.

Holders of permits issued under § 375.47 shall submit to the Board a report of flights conducted pursuant thereto. The initial report shall be submitted not later than the 30th day following commencement of operations and shall report on all flights conducted during such period. Like reports shall be filed for each succeeding 30-day period. Failure to submit a report on time shall constitute grounds for revocation, refusal to renew the permit, or denial of the issuance of a new permit.

§ 375.49 Contents of reports.

The report of flights shall give a brief summary of each of the flights performed, setting forth the quantity and type of traffic carried and the names and addresses of the persons for whose account the transportation was furnished. In the case of cargo transportation, such reports shall in addition specifically set forth (a) the consignor; (b) the consignee; (c) the identity of the person or persons paying for the transportation (whether consignor, consignee or other); and (d) the principal business of each of the foregoing.

§ 375.50 Keeping of records.

Failure to comply with the requirements of this section shall be cause for the suspension, revocation or refusal to renew a permit or the denial of the issuance of a new permit issuable under this part.

(a) Each holder of a permit issued under § 375.47 shall keep true copies of all manifests, air waybills, invoices and other traffic documents covering flights originating or terminating in the United States and for flights originating in the United States under permits authorizing 10 or more flights in a 90 day period shall maintain a place in the United States where such documents may be inspected at any time by authorized representatives of the Board or the Federal Aviation Agency. Records of flights terminating in the United States and flights conducted pursuant to a permit authorizing less than 10 flights in any 90 day period need not be maintained in the United States, but shall be made available to the Board upon demand.

(b) Records documenting each particular flight, demonstrating compliance with §§ 375.23 and 375.24 shall be made available to the Board or the Federal Aviation Agency upon demand.

Subpart F—Penalties

§ 375.60 Penalties.

The operation of a foreign aircraft within the United States in violation of the provisions of this part constitutes a violation of section 501 of the Act, and may, in addition, constitute a violation of the Civil Air Regulations. Such operation makes the person or persons responsible for the violation or violations subject to a civil penalty as provided in section 901 of the Act, and to the alteration, amendment, modification, suspension or revocation of any permit issued under this part and of any United States certificate involved as provided in section 609 of the Act. Engaging in air transportation as defined in the aforesaid Act by a foreign aircraft without a foreign air carrier permit issued pursuant to section 402 of the Act or in violation of the terms of such a permit constitutes not only a violation of this regulation but of Title IV of the Act as well, which entails a criminal penalty as set forth in section 902 of the Act.

Subpart G—Special Authorization

§ 375.70 Special authorization.

Any person desiring to navigate a foreign civil aircraft within the United States otherwise than as specifically provided in this part may petition the Board for an order authorizing the particular flight or series of flights. Such an order may be issued only if the Board finds that the proposed operation is fully consistent with the applicable law and is in the interest of the public of the United States.

(Sec. 204 (a), 72 Stat. 743, 49 U. S. C. 1324. Interpret or apply secs. 402, 1108 (b), 72 Stat. 757, 798, 49 U. S. C. 1372, 1508)

By the Civil Aeronautics Board.

[SEAL] MABEL MCCART, *Acting Secretary.*

[F. R. Doc. 59-153; Filed, Jan. 6, 1959; 8:51 a. m.]

[Reg. ER-244A]

PART 293—CLASSIFICATION AND EXEMPTION OF ALASKAN AIR TAXI OPERATORS

In Regulation No. ER-244, "Enactment of Part 293 of the Board's Economic Regulations," published in 24 F. R. 96, the beginning of the third paragraph of the Preamble was inadvertently omitted. The omitted language reads as follows: "The Board finds that the circumstances which warranted the exemption to pilot owners under Part 292 apply equally to services to be performed by the redesignated Alaskan air taxi operators. Many of these operators own only one aircraft; they may operate small aircraft only; and they will not be authorized to provide individually ticketed service between the major passenger generating points which receive minimum service by certificated scheduled air carriers. Hence the Board finds that the enforcement of the provisions of Title IV listed below and of related regulations would be an undue burden on these operators by reason of the limited extent of and unusual circumstances affecting their operations and is not in the public interest. Therefore, in order to provide the authorized services, the newly designated Alaskan air taxi operators are exempted from the provisions of sections 401 (a) and 404 (a), except for the provision of safe service, equipment and facilities in connection with air transportation. Likewise, the newly designated Alaskan air taxi operators are exempted from the filing and reporting provisions * * *."

Effective: February 3, 1959.

Adopted: December 30, 1958.

(Sec. 205 (a), 52 Stat. 984, 49 U. S. C. 425. Interpret or apply sec. 416, 52 Stat. 1004; 49 U. S. C. 496)

By the Civil Aeronautics Board.

[SEAL] MABEL MCCART, *Acting Secretary.*

[F. R. Doc. 59-154; Filed, Jan. 6, 1959; 8:51 a. m.]

Title 25—INDIANS

Chapter I—Bureau of Indian Affairs, Department of the Interior

APPENDIX—EXTENSION OF THE TRUST OR RESTRICTED STATUS OF CERTAIN INDIAN LANDS

Trust Periods Expiring During Calendar Year 1959

By virtue of and pursuant to the authority delegated by Executive Order No. 10250 of June 5, 1951, and pursuant to section 5 of the Act of February 8, 1887 (24 Stat. 388, 389), the act of June 21, 1906 (34 Stat. 325, 326), and the act of March 2, 1917 (39 Stat. 969, 976), and other applicable provisions of law, it is hereby ordered that the periods of trust or other restrictions against alienation contained in any patent applying to Indian lands, whether of a tribal or individual status, which, unless extended will expire during the calendar year 1959, be, and the same are hereby, extended for a further period of five years from the date on which any such trust would otherwise expire.

This order is not intended to apply to any case in which Congress has specifically reserved to itself authority to extend the period of trust on tribal or individual Indian lands.

FRED A. SEATON, *Secretary of the Interior.*

DECEMBER 31, 1958.

[F. R. Doc. 59-113; Filed, Jan. 6, 1959; 8:45 a. m.]

Title 26—INTERNAL REVENUE, 1954

Chapter I—Internal Revenue Service, Department of the Treasury

SUBCHAPTER A—INCOME TAX

[T. D. 6350]

PART 1—INCOME TAX; TAXABLE YEARS BEGINNING AFTER DECEMBER 31, 1953

Corporate Normal Tax

In order to conform the Income Tax Regulations (26 CFR (1954) Part 1) to those amendments made to the Internal Revenue Code of 1954 by the Tax Rate

Extension Act of 1958 (72 Stat. 259), which relate to the extension of corporation normal-tax rate under section 11 (b), such regulations are amended as follows:

PARAGRAPH 1. Section 1.11, as amended by Treasury Decision 6237, approved June 5, 1957, is further amended by revising section 11 (b) (1) and (2) and the historical note to read as follows:

§ 1.11 Statutory provision; tax on corporations.

SEC. 11. *Tax imposed.* * * *

(b) *Normal tax*—(1) *Taxable years beginning before July 1, 1959.* In the case of a taxable year beginning before July 1, 1959, the normal tax is equal to 30 percent of the taxable income.

(2) *Taxable years beginning after June 30, 1959.* In the case of a taxable year beginning after June 30, 1959, the normal tax is equal to 25 percent of the taxable income.

* * * * *

[Sec. 11 as amended by sec. 2, Tax Rate Extension Act 1955 (69 Stat. 14); sec. 2, Tax Rate Extension Act 1956 (70 Stat. 66); sec. 2, Tax Rate Extension Act 1957 (71 Stat. 9); sec. 2, Tax Rate Extension Act 1958 (72 Stat. 259)]

PAR. 2. Paragraph (c) of § 1.11–1, as amended by Treasury Decision 6237, is further amended by striking out "1958" each time it occurs and inserting in lieu thereof "1959".

PAR. 3. Paragraph (a) and example (2) in paragraph (n) of § 1.21–1, as amended by Treasury Decision 6237, is further amended by striking out "1958" each time it occurs and inserting in lieu thereof "1959".

Because this Treasury decision merely provides for the extension of the corporate normal-tax rate under the Tax Rate Extension Act of 1958 (72 Stat. 259), it is found unnecessary to issue the Treasury decision with notice and public procedure thereon under section 4 (a) of the Administrative Procedure Act, approved June 11, 1946, or subject to the effective date limitation of section 4 (c) of that Act.

(68A Stat. 917; 26 U. S. C. 7805)

[SEAL] O. GORDON DELK,
Acting Commissioner of Internal Revenue.

Approved: December 31, 1958.

FRED C. SCRIBNER, Jr.,
Acting Secretary of the Treasury.

[F. R. Doc. 59–141; Filed, Jan. 6 1959; 8:49 a.m.]

PROPOSED RULE MAKING

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Food and Drug Administration

[21 CFR Part 120]

TOLERANCES AND EXEMPTIONS FROM TOLERANCES FOR PESTICIDE CHEMICALS IN OR ON RAW AGRICULTURAL COMMODITIES

Notice of Filing of Petition for Establishment of Tolerances for Residues of O,O-Diethyl O-(2-isopropyl-4-Methyl-6-Pyrimidinyl) Phosphorothioate

Pursuant to the provisions of the Federal Food, Drug, and Cosmetic Act (sec. 408 (d) (1), 68 Stat. 512; 21 U. S. C. 346a (d) (1)), the following notice is issued:

A petition has been filed by Geigy Agricultural Chemicals, Division of Geigy Chemical Corporation, Saw Mill River Road, Ardsley, New York, proposing the establishment of tolerances of 0.75 parts per million for residues of *O,O*-diethyl *O*-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothioate in or on the following raw agricultural commodities: Brussels sprouts, cantaloupes, carrots, collards, cranberries, endive, grapes, kale, kohlrabi, lima beans, muskmelons, parsley, parsnips, radishes, salsify roots, summer squash, Swiss chard, turnips (roots), turnips (tops), watermelons, winter squash.

The analytical method proposed in the petition for determining residues of *O,O*-diethyl *O*-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothioate are those described in the FEDERAL REGISTER of March 21, 1957 (22 F. R. 1889).

Dated: December 30, 1958.

[SEAL] ROBERT S. ROE.
Director, Bureau of Biological and Physical Sciences.

[F. R. Doc. 59–139; Filed, Jan. 6, 1959; 8:49 a. m.]

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

[7 CFR Part 962]

FRESH PEACHES GROWN IN GEORGIA

Continuation in Effect of Amended Marketing Agreement and Order

Pursuant to the applicable provisions of Marketing Agreement No. 99, as amended, and Order No. 62, as amended (7 CFR Part 962), and the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (48 Stat. 31, as amended; 7 U. S. C. 601 et seq.), notice was given in the FEDERAL REGISTER on November 18, 1958 (23 F. R. 8964), that a referendum would be conducted among the growers who, during the calendar year 1958 (which period was determined to be a representative period for the purpose of such referendum), had been engaged, in Georgia, in the production of peaches for market to determine whether a majority of such growers favor the termination of the amended marketing agreement and order.

Upon the basis of the results of the aforesaid referendum, which was conducted during the period December 1, to December 11, 1958, both dates inclusive, it is hereby found and determined that the termination of the amended marketing agreement and order, regulating the handling of fresh peaches grown in Georgia, is not favored by the requisite majority of such growers.

Dated: December 31, 1958.

[SEAL] CLARENCE L. MILLER,
Assistant Secretary.

[F. R. Doc. 59–150; Filed, Jan. 6, 1959; 8:50 a. m.]

CIVIL AERONAUTICS BOARD

[14 CFR Parts 1, 3, 4b, 6, 7, 13]

[Draft Release No. 58–1C]

1958 ANNUAL REVIEW AND AMENDMENTS OF THE AIRWORTHINESS REGULATIONS

Notice of Proposed Rule Making

Pursuant to authority delegated by the Civil Aeronautics Board to the Bureau of Safety, notice is hereby given that the Bureau proposes amendments to the airworthiness provisions of the Civil Air Regulations as hereinafter set forth.

Interested persons may participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire. Communications should be submitted in duplicate to the Civil Aeronautics Board, attention Bureau of Safety, Washington 25, D. C. In order to insure their consideration before further action is taken on the proposed rules, communications must be received by February 16, 1959. Copies of such communications will be available after February 20, 1959, for examination by interested persons.

The proposed amendments to the airworthiness regulations attached hereto stem from the studies conducted during the Board's 1958 Annual Airworthiness Review and particularly from the discussions which took place at the meetings held in Washington September 8 through September 16, 1958. Those issues which are sufficiently resolved are being published herein in the form of proposed amendments to the regulations.

The proposals herein pertain to amendments to Parts 1, 3, 4b, 6, 7, and 13 of the Civil Air Regulations and to the adoption of a new Special Civil Air Regulation No. SR–422B. The explanatory material accompanying each proposal presents the basis for the amendments and also the reasons why certain other proposals are not considered to be sufficiently resolved to justify specific recommendations for amendment of the regulations at the present time.

These amendments are proposed under the authority of Title VI of the Civil Aeronautics Act of 1938, as amended. The proposals may be changed in the

light of comments received in response to this notice of proposed rule making.

(Sec. 205 (a), 52 Stat. 984; 49 U. S. C. 425. Interpret or apply secs. 601–610, 52 Stat. 1007–1012, as amended; 49 U. S. C. 551–560)

Dated at Washington, D. C., December 22, 1958.

By the Bureau of Safety.

[SEAL] OSCAR BAKKE, *Director.*

Proposed Rules—Part 1

The following proposed change to Part 1 stems from its consideration within the framework of the 1958 Annual Airworthiness Review. It relates to the requirements for issuance of airworthiness certificates.

The currently effective provisions of §1.67 set forth requirements for the airworthiness certification of aircraft in the standard airworthiness categories. Certain administrative difficulties have been experienced in applying these provisions to aircraft used in military service and later released for civil use or to aircraft which were out of service and the airworthiness status not maintained. These difficulties appear to stem from the fact that the language of § 1.67 is rather specifically related to the original airworthiness certification of newly manufactured aircraft. Therefore, it is proposed to amend § 1.67 to include additional provisions specifically applicable to the airworthiness certification of other than newly manufactured aircraft.

In view of the foregoing, notice is hereby given that it is proposed to recommend to the Board that Part 1 of the Civil Air Regulations be amended:

By amending § 1.67 by deleting the reference paragraph "(c)" in the first sentence and inserting in lieu thereof "(d)", and by adding a new paragraph (d) to read as follows:

§ 1.67 Airworthiness certificate; requirements for issuance. * * *

(d) *Other aircraft.* An applicant for the issuance of an airworthiness certificate for an aircraft other than provided for in paragraphs (a) through (c) of this section may be issued such a certificate when:

(1) The applicant presents proof to the Administrator that the aircraft conforms to a type design approved under a type certificate or a supplemental type certificate in other than the limited category and with all applicable Airworthiness Directives issued by the Administrator; and

(2) The aircraft has been inspected and found airworthy by the manufacturer, by an appropriately certificated domestic repair station, or by a certificated air carrier which possesses adequate overhaul facilities and has a maintenance and inspection organization appropriate to the type of aircraft; and

(3) Upon inspection of the aircraft, the Administrator finds that the aircraft conforms to the type design and is in an airworthy condition for safe operation.

Proposed Rules—Part 3

There are contained herein proposed amendments with respect to various issues considered within the framework of the 1958 Annual Airworthiness Review. The substantive changes proposed herein affect the requirements applicable to performance, flying qualities, powerplants, cockpit controls, and equipment.

Substantive changes are proposed to the requirements applicable to the approach and landing stages of flight. The currently effective requirements specifying flying qualities during these stages of flight have been based upon the power-off glide condition. Since in the normal operation of airplanes power is used during the approach phase, the requirements haye been significant in practice only in the particular and isolated case of power failures in single-engine airplanes. While it is important that stability and controllability be adequate under all conditions of flight, it is even more important that these characteristics be satisfactory during normal day-to-day operations. Accordingly, in recognition of this fact and to consider realistically the fact that approach speeds are higher, it is proposed to require that trim be maintained at a speed of 1.5 V_{s_1} with sufficient power to achieve a descent angle of 3°. A higher speed would be permitted to maintain trim in the power-off condition. However, to insure that a satisfactory level of longitudinal controllability remains for single-engine airplanes, it is proposed to limit to 10 pounds the maximum permissible control force necessary to hold a glide speed of 1.5 V_{s_1}. In recognition of the higher approach speed, it is also proposed to require that a speed of not less than 1.5 V_{s_1} be used to determine the landing distance.

Amendments to the directional and lateral stability requirements of § 3.118 are proposed. It has been pointed out that the existing requirements for directional and lateral stability have caused some difficulty. Airplanes with characteristics requiring a large degree of control effectiveness have also had high stabilizing forces that have necessitated complex steering mechanisms, centering springs, and large dorsal fins. This has added weight and complexity and has caused heavy rudder pedal pressures and ground handling difficulties. The fundamental need for the stability currently required is said to no longer exist since wing flaps have reduced the need for severe sideslips, and improved ailerons have almost eliminated adverse yaw characteristics. Therefore, it is proposed to amend § 3.118 to make the directional and lateral stability requirements more realistically applicable to present-day airplanes.

Accident records have shown that approximately one-third of all accidents with airplanes certificated under Part 3 have involved the misuse of the landing gear control. These records present convincing evidence that the location and identification of the landing gear control have not been completely satisfactory. Inadvertent operation of this control appears to be related to its close proximity and similarity to the wing flap control. Accordingly, it is proposed to amend § 3.384 to place certain requirements on the location and shape of the landing gear and flap controls to reduce the possibility of confusion.

There are no provisions in Part 3 which require feathering propellers to incorporate means for unfeathering when the engine is stopped. A number of accidents, including one fatal, have occurred with airplanes equipped with propellers not having such means, during practice or training flights when the propeller was feathered for nonemergency reasons. To minimize this hazard it is proposed to change § 3.461 to require means for unfeathering the propellers which have provisions for stopping the engine rotation.

One proposal is included to clarify the intent of the provisions for fuel shutoff means on multiengine airplanes when a single tank is utilized. There are proposed changes to make the regulations more specific so as to provide substantially the same level of safety in multiengine airplanes using a single fuel tank as when multiple fuel tanks are used. Provision for a shutoff valve at each outlet has been required by CAA policy; however, there remains a need to change the regulation to make this requirement explicit. Also, consistent with the concept of maintaining, with a single fuel tank, a level of safety equivalent to that of multiple fuel tanks, detail changes relative to tank vents and filler caps are needed. In addition, consideration was given to deletion of the requirement for fuel shutoff valves for single-engine airplanes on the representation that fires were infrequent and that the shutoff valve causes a greater hazard through inadvertent operation than the hazard which it is intended to combat. However, accident records revealed that a fair number of fires do occur in these airplanes. It is believed that, even though modern single-engine airplanes incorporate considerable fire protection in their design and construction, the fuel shutoff valve represents the only active means for stopping a fire.

A number of accidents have occurred because of fuel system mismanagement, thus it appears appropriate to require that the valves be protected against inadvertent operation. Such a requirement is proposed in § 3.551 (b).

A proposal was discussed at the recent Annual Airworthiness Meetings to extend the preheat requirement previously associated with engines employing conventional venturi carburetors to cover multiengine airplanes with sea level engines employing carburetors which embody features tending to reduce the possibility of ice formation. The Bureau believes that there is considerable evidence that light airplanes are operating in instrument weather conditions conducive to heavy induction system icing. Where protection afforded by the sheltered alternate source of air has proven inadequate, statistical data indicate that single-engine airplanes are affected as much as multiengine airplanes. In view of the degree of hazard involved, the requirement for a sheltered source of air is de-

leted and in lieu thereof specific preheater requirements are set forth in § 3.606 (d).

Under the existing regulations the installation of gyroscopically operated instruments need not comply with the requirements of § 3.668 unless the airplane is "intended for operations under instrument flight rules." This is difficult to administer since purchasers and operators will not necessarily know whether or not the person originally installing instruments had or had not intended IFR operations. Therefore, it is proposed to amend § 3.668 to remove the stipulation regarding intent of operations.

There is a proposal to amend the battery provisions to make them applicable to types of batteries such as nickel-cadmium and zinc-silver as well as lead-acid types. It is not intended by this revision to change the current provisions with respect to lead-acid batteries.

Several proposals relative to information prepared for the pilot and its method of presentation were considered. Experience with accidents and pilot-training tests has revealed that pilots are not fully aware of the importance of the engine-out-climb or minimum-descent speed for each particular make and model of airplane. Transition from one model to another frequently results in a pilot not knowing the correct engine-out best performance airspeed, even though lack of such knowledge represents a potential contributing cause to an accident. To provide proper emphasis for this information it is proposed to make an addition to § 3.780 to require that correct engine-out best performance airspeed be included in the Airplane Flight Manual.

In addition, there are included other changes which are of a relatively minor, clarifying, or editorial nature.

A proposal was discussed at the Annual Airworthiness Meetings which would require an approved maintenance manual. Several areas of concern were introduced in which it appeared that there would be a need for additional study. These included the need to evaluate accident data to determine whether there might be an improvement in safety if manuals were furnished, a clarification as to the exact nature of material to go into such a manual, a determination of the economic burden that would be imposed on the industry and, clarification as to whether or not the manual would need to be approved by the Administrator. In view of the extent of the unresolved problems, the Bureau believes it to be appropriate to hold this matter for further consideration.

It should be noted that the issue relative to emergency egress with parachutes has been resolved separately (see Amendment 3–4 to Part 3).

In view of the foregoing, notice is hereby given that it is proposed that Part 3 of the Civil Air Regulations be amended:

§ 3.86 [Amendment]

1. By amending § 3.86 (a) (1) by deleting "1.3 V_{s_0}" and inserting in lieu thereof "1.5 V_{s_1}."

2. By amending § 3.109 by amending paragraph (a) (2) and adding new paragraphs (d) and (e) to read as follows:

§ 3.109 Longitudinal control. * * *

(a) * * *

(2) Power-off and the airplane trimmed at 1.5 V_{s_1} or at the minimum trim speed, whichever is higher.

* * * * *

(d) It shall be possible to maintain a speed of not more than 1.5 V_{s_1} with a pilot control force of not more than 10 pounds during a power-off glide with landing gear and wing flaps extended and the most forward center of gravity position approved (1) at maximum authorized weight, and (2) regardless of weight.

(e) It shall be possible, without the use of the primary means of longitudinal control, to control the descent of the airplane with the use of all other normal flight and power controls to a zero rate of descent and to an attitude suitable for a controlled landing without requiring exceptional strength, skill, or alertness on the part of the pilot, or without exceeding the operational and the structural limitations of the airplane.

3. By amending § 3.112 by deleting paragraph (c) and by amending paragraph (a) (2) (ii) to read as follows:

§ 3.112 Requirements.

(a) * * *

(2) * * *

(ii) During a power approach at 1.5 V_{s_1} and while maintaining a 3° angle of descent.

(*a*) With landing gear extended and wing flaps retracted.

(*b*) With landing gear extended and wing flaps extended under the forward center of gravity position approved with the maximum authorized weight.

(*c*) With landing gear extended and wing flaps extended under the most forward center of gravity position approved, regardless of weight.

4. By amending § 3.115 by deleting the heading of paragraph (a) and inserting in lieu thereof "Approach" and by deleting paragraphs (a) (4) and (a) (5) and inserting a new paragraph (a) (4) to read as follows:

§ 3.115 Specific conditions. * * *

(a) *Approach.* * * *

(4) Airplane trimmed at 1.5V_{s_1} and power on as required to maintain a 3° angle of descent.

5. By amending § 3.118 (a) (1), (2), and (3) to read as follows:

§ 3.118 Directional and lateral stability.

(a) *Three-control airplanes.* (1) The static directional stability, as shown by the tendency to recover from a skid with rudder free, shall be positive for all landing gear and flap positions, with all symmetrical power conditions up to maximum continuous power, and for all speeds from 1.2 V_{s_1} up to the maximum permissible speed. The angle of skid for these tests shall be appropriate to the type of aircraft but in all cases the full rudder deflection or 150-pound rudder pedal force, whichever occurs first, shall be used at speeds below V_p. The rudder pedal shall not reverse.

(2) The static lateral stability as shown by the tendency to raise the low wing in a sideslip, appropriate to the type of aircraft, but in no case less than 10° of bank, for all gear and flap positions and symmetrical power conditions up to 75 percent maximum continuous power, shall:

(i) Be positive at the maximum permissible speed.

(ii) Not be negative at a speed equal to 1.2 V_{s_1}.

(3) In straight steady sideslips at a speed of 1.2 V_{s_1} for all gear and flap positions and for all symmetrical power conditions up to 50 percent maximum continuous power, the aileron and rudder control movements and forces shall increase steadily, but not necessarily in constant proportion, as the angle of sideslip is increased up to the maximum sideslip angle that is considered appropriate to the type. At greater angles up to that at which the full rudder or aileron control is employed or a control force limit specified by § 3.106 is obtained, the rudder pedal force shall not reverse. Sufficient bank shall accompany sideslipping to prevent departure from a constant heading. Rapid entry into or recovery from a maximum sideslip should not result in uncontrollable flight characteristics.

6. By amending § 3.120 (g) (1) to read as follows:

§ 3.120 Stalling demonstration. * * *

(g) * * *

(1) With trim controls adjusted for straight flight at 1.5V_{s1} or at the minimum trim speed, whichever is higher, the speed shall be reduced by means of the elevator control until the speed is slightly above the stalling speed; then

7. By amending § 3.384 by adding a new paragraph (c) to read as follows:

§ 3.384 Cockpit controls. * * *

(c) The wing flap and landing gear controls shall comply with the following:

(1) The wing flap (or auxiliary lift device) control shall be located centrally or to the right of the pedestal center line or of the powerplant throttle control center line and shall be sufficiently displaced from the landing gear control to avoid confusion.

(2) The landing gear control shall be located to the left of the throttle center line or of the pedestal center line.

(3) The control knobs shall be shaped in accordance with Figure 4b–22 of Part 4b of this subchapter and such knobs shall be of the same color but of a color in contrast with that of not only the other control knobs but also the surrounding cockpit.

8. By amending § 3.416 by adding a new paragraph (c) to read as follows:

§ 3.416 Propellers. * * *

(c) When propeller control design permits stopping of crankshaft rotation of any engine in flight by feathering the propeller, means shall be provided for

unfeathering each propeller individually in flight.

9. By amending § 3.431 by redesignating the introductory paragraph as paragraph (a), by inserting the words, "except the fuel tanks" between the words "component" and "will", by deleting the Note under § 3.431, and by adding a new paragraph (b) to read as follows:

§ 3.431 Multiengine fuel system arrangement. * * *

(b) If multiengine aircraft employ a single fuel tank or series of fuel tanks interconnected to function as a single fuel tank the following provisions shall apply:

(1) Independent tank outlets to each engine. Each outlet shall incorporate a shutoff valve at the tank. This valve may also serve as the fire wall shutoff valve required by § 3.551 provided the line between the valve and the engine compartment does not contain a hazardous amount of fuel which can drain into the engine compartment.

(2) At least two vents arranged to minimize the possibility of both vents becoming obstructed simultaneously.

(3) Filler cap(s) designed to minimize the possibility of incorrect installation or loss in flight.

(4) The remainder of the fuel system from the tank outlet to the engine shall be entirely independent of any portion of the system supplying fuel to the other engine(s).

10. By amending § 3.551 (b) to read as follows:

§ 3.551 Fuel valves. * * *

(b) Provisions shall be made to guard against inadvertent operation on the shutoff valves and to make it possible for the flight personnel to reopen the valves rapidly after they have once been closed.

11. By amending § 3.606 (d) to read as follows:

§ 3.606 Induction system de-icing and anti-icing provisions. * * *

(d) Airplanes equipped with sea level engines employing carburetors which embody features tending to reduce the possibility of ice formation shall be provided with a preheater capable of providing a heat rise of 90° F, when the engine is operating at 75 percent of its maximum continuous power.

§ 3.638 [Amendment]

12. By amending § 3.638 (a) by deleting ", or" between the words "pressure" and "which" and by inserting in lieu thereof the word "and"; by deleting the comma after the word "engine", and by adding a new sentence at the end thereof to read as follows: "The provisions of this paragraph shall not apply to those lines and fittings which form an integral part of the engine."

§ 3.655 [Amendment]

13. By amending § 3.655 (b) (2) by deleting subdivision (i) and renumbering subdivisions (ii), (iii), and (iv) as (i), (ii), and (iii), respectively.

§ 3.668 [Amendment]

14. By amending § 3.668 by deleting the words "intended for operation under instrument flight rules" from the first sentence.

15. By deleteing § 3.683 and § 3.684 and inserting in lieu thereof a new § 3.683 to read as follows:

§ 3.683 Storage battery design and installation.

Storage batteries shall be of such design and be so installed that:

(a) Safe cell temperatures and pressures are maintained during any probable charging or discharging condition. No uncontrolled increase in cell temperature shall result when the storage battery is recharged (after previous complete discharge) at maximum regulated voltage during a flight of maximum duration, under the most adverse-cooling conditions likely to occur in service. Tests to demonstrate compliance with this regulation shall not be required if satisfactory operating experience with similar batteries and installations has shown that maintaining of safe cell temperatures and pressures presents no problem.

(b) Explosive or toxic gases emitted by the storage battery in normal operation, or as a result of any probable malfunction in the charging system or battery installation, shall not accumulate in hazardous quantities within the aircraft.

(c) Corrosive fluids or gases which may be emitted or spilled from the storage battery shall not damage surrounding aircraft structure or adjacent essential equipment.

§ 3.696 [Amendment]

16. By amending § 3.696 by deleting the word "required" from the first sentence and inserting in lieu thereof "installed".

§ 3.700 [Amendment]

17. By amending § 3.700 (e) by deleting the word "noncombustible" and inserting in lieu thereof "flame-resistant".

§ 3.757 [Amendment]

18. By amending § 3.757 (a) by deleting the opening words "True indicated" and inserting in lieu thereof "Calibrated".

19. By amending § 3.780 (a) by adding a new subparagraph (6) to read as follows:

§ 3.780 Performance information.

(a) * * *

(6) The best climb/minimum descent speed with one engine inoperative for multiengine airplanes.

Proposed Rules—Part 4b

Changes herein are proposed with respect to various items which were considered within the framework of the 1958 Annual Airworthiness Review.

There is a proposal to change the flight provisions relating to elevator control power. The currently effective regulations require that there must be sufficient elevator control power to fly the airplane at all speeds, powers, weights, and center of gravity positions for which the airplane is to be certificated. Turbine-powered transports of recent design, in general, are utilizing adjustable stabilizers and control power becomes a function of the stabilizer incidence setting, and trim and controllability are interrelated. The proposed revisions to §§ 4b.112 (c) (1), 4b.131 (a), and 4b.151 (a) are intended to make these provisions more appropriate for application to adjustable stabilizers.

A number of changes to the structural provisions are proposed. With the advent of speed control devices a new § 4b.217 is added which prescribes criteria relating to the structural integrity of such devices. A change is proposed to § 4b.421 (a) which requires structural test or analysis of the fuel tanks when subject to pressure developed under the most adverse condition of airplane roll and fuel load. On the basis of past experience, § 4b.421 (c) is being revised to require non-metallic tanks to be tested only for the vibration test of § 4b.421 (b) (4), since this has been found to be the critical condition, except that compliance may be shown based on satisfactory operating experience of a similar tank in a similar installation. There were several issues relating to the structural provisions discussed at the Annual Airworthiness Meeting which were considered to require further study before any regulatory action could be taken. In the light of their importance, these issues were given further study directly after the meeting, from which certain proposed changes resulted and these are included herein. These involve the speed V_A and point A on the V-g diagram and the load factor at V_D. Originally, V_A coincided with point A on the v-g diagram. However, in view of recent changes to the regulations, such as accounting for compressibility effects, this is no longer the case and, as a result, inconsistencies have been introduced. It is proposed to amend §§ 4b.210 (b) (2), 4b.213 (c), and figure 4b–2 to restore consistency. The currently effective provisions require a load factor of 2.5 at the design dive speed, V_D. In view of operational statistics which indicate that load factors in the neighborhood of 2.5 are extremely remote at relatively high speeds, it is proposed to reduce the required load factor to 2.0 or 0.75 of the load factor at V_C, whichever is greater.

Airplanes in the past have been able to show compliance with the flutter prevention requirements without recourse to the use of flutter dampers. With high speed, high Mach number airplanes it might not be possible to show compliance without the use of flutter dampers, therefore, specific design safety criteria are proposed in § 4b.308 (a).

A proposal is included in § 4b.320 relevant to design safety criteria for application to power boost or power actuated control systems. This change is intended to insure continued safe flight and landing under reasonably probable failure conditions of the system and of the engines as well as to insure that the airplane will not be uncontrollable in the event of failure of all the engines.

A substantive change is being proposed to the provisions relating to the thrust reverser system on a turbo-jet engine. The currently effective provisions require that the reverse thrust control incorporate a positive stop at the flight idle position to guard against inadvertent application of reverse thrust. These

provisions were formulated on the basis of reverse thrust systems intended for ground use only. At the recent Annual Airworthiness Review Meeting certain manufacturers and operators indicated that consideration was being given to the development of reverse thrust systems for inflight use. In this regard, representations were made that the requirement for a positive stop in the reverse thrust control would preclude the use of reverse thrust in flight, and would discourage the ultimate development of such a system. In view of the foregoing, it is proposed to revise § 4b.474a (b) so that a positive stop in the reverse thrust control would not be required when the system is approved for inflight use. In addition, to minimize the possibility of any unsafe conditions in the use of such a system design, safety criteria, expressed in broad and objective terms, are set forth in the proposed change to § 4b.407.

There are several proposed changes to the emergency evacuation provisions. Included are changes to the table under § 4b.362 (c) which make consistent the relationship in the exits required for the various passenger occupancy groups when the different type exits are reduced to a common index of effectiveness. These proposed changes affect the occupancy range of 110 to 219 passengers. More effective exits would be required in the occupancy group of 100 to 109 passengers and additional exits would be required for the occupancy group of 190 to 219 passengers. The currently effective provisions of the table appear to be overly severe when applied to the smaller transports with less than 20 passengers. To accommodate these airplanes more realistically, the occupancy group of 1 to 19 passengers is separated into divisions of 1 to 9 and 10 to 19 passengers requiring one type IV and one type III exit per side, respectively. Consistent with this change, a change is also proposed to § 4b.362 (d) relevant to ditching exits. Additional changes to § 4b.362 include a requirement that flotation means be provided for all occupants of transport airplanes regardless of whether or not the airplanes are certificated for ditching and a requirement relevant to the construction of compartment doors.

An important change is being proposed to the fire protection provisions for cargo compartments. The currently effective provisions prescribe specific fire protection criteria for the different type compartments specified. It appears that these criteria might not be sufficiently flexible for realistic application to all cargo airplanes. It is not considered appropriate to differentiate in the standards for passenger- and cargo-carrying airplanes since this is contradictory to the Board's policy. However, consistent with the Board's policy and with the Board's desire to promote the development of cargo operations, there is included a proposed change which is intended for general application but which might afford cargo operators the necessary flexibility. The proposed changes affect § 4b.383 (d) relevant to "Class D" compartments and would permit alternative means for complying with the specific provisions applicable to such compartments if the conditions of equivalent safety as exemplified by these provisions are met.

Extensive changes relating to the fuel system design, arrangement, and performance are proposed with the intent of eliminating administrative difficulties encountered in the implementation of the currently effective regulations. These changes involve rearrangement of the various provisions, and changes of an editorial nature, the more important being the change to make it clear that the engine fuel pump is considered to be part of the powerplant fuel system and the change which combines the related provisions concerned with fuel flow rates. Of the substantive changes it is proposed to delete the requirement for an engine-driven fuel pump and the provision that requires a by-pass on turbine engine fuel injection pumps, and to add provisions relating to power and/or thrust recovery for turbine engines. It appears that fuel pumps which are not engine-driven have been developed which are as reliable as engine-driven pumps, therefore, it is proposed to delete the requirement for an engine-driven pump. The currently effective regulations do not require a by-pass on reciprocating engine fuel injection pumps and there appears to be no reason why this should not be applicable to fuel injection pumps on turbine engines.

The currently effective regulations do not prescribe any provisions for turbine engine power or thrust recovery in the event of flame-out, but do require that full fuel flow be regained within 20 seconds for reciprocating engines. A similar proposal which is more appropriate for application to turbine engines is included.

There is a proposal to revise § 4b.461 (c) to require means to indicate that the powerplant ice protection system is functioning. A similar provision is being proposed for inclusion in Part 13.

There is a proposal to amend § 4b.625 (d) to make it applicable to types of batteries such as nickel-cadmium and zinc-silver as well as lead-acid types. It is not intended by this revision to change the current provisions with respect to lead-acid batteries.

Other substantive changes are being proposed relevant to engine torque effects for turbine engines (§ 4b.216), to filter screen clogging (§ 4b.435 (d)), to lightning strike protection (§ 4b.628), to draining of fluids subject to freezing (§§ 4b.386 (i) and 4b.660), and to placards (§ 4b.738 (e)).

In addition, there are included other changes which are of a relatively minor, clarifying, or editorial nature.

There were a number of proposals discussed at this year's Annual Airworthiness Review Meeting which could not be resolved because of the need for further study. The more important of these are as follows:

From the discussions at the meeting, it appeared that it might be premature to introduce criteria relating to yawing in continuous turbulence at this time and that additional study is necessary which should encompass the effects of continuous turbulence on the whole aircraft.

The detailed standards on cockpit vision, such as have been proposed for inclusion in the regulations, are currently applicable as manual interpretive material. It is generally agreed that these detailed standards are adequate to define the minimum safe requirements for cockpit vision consistent with the broad and objective provisions of the Civil Air Regulations. Being interpretive material it is inherently flexible to permit the necessary scope of freedom to the airframe manufacturers in the design of the cockpit when considering other important design features such as bird-proofness, fail safe design, pressurization, instrument location, etc. In view of the foregoing, the Bureau is of the view that safety would not be enhanced by merely transposing the interpretive material to the regulations and accordingly no such proposal is included.

Included in the discussion of the operation and arrangement of the fuel system was a proposal which would permit more than one engine to be supplied by a single fuel tank on airplanes of relatively low weight. This proposal represents a departure from the established principle of complete fuel system independence for each engine. The discussion at the recent Annual Airworthiness Review Meeting brought out the complex and controversial nature of the issues. Considerable additional study will be necessary, which will be continued separately from the annual review procedure, before any resolution on this issue can be effected.

Crash fire protection equipment contained in the airplane was again discussed and it appeared that suitable equipment is unavailable and unproven and that considerable development is necessary. It is, therefore, premature at this time to propose regulations to require fire-inerting systems.

Another proposal which could not be resolved at this time concerned the introduction of uniform requirements for a maintenance manual in all of the airworthiness regulations. In view of the general nature of this proposal and the different treatment given to the maintenance manual in the various regulations at the present time, various issues were raised which indicated the need for further study prior to taking regulatory action.

A proposal was submitted which would require an emergency power source independent of the complete electrical system for communication with the control tower in the event of complete electrical system failure. It was considered, in view of the comments received, that it could be resolved without further discussion. After further study it appears that the proposal was not sufficiently justified as a minimum airworthiness requirement.

In view of the foregoing, notice is hereby given that it is proposed that Part 4b of the Civil Air Regulations be amended:

1. By amending § 4b.1 (c) by redesignating subparagraph (8) as subparagraph (9) and inserting a new subparagraph (8) to read as follows:

§ 4b.1 Definitions. * * *

(c) *Weights.* * * *

(8) *Zero fuel weight.* The zero fuel weight is the design maximum weight of the airplane with no disposable fuel and oil.

§ 4b.112 [Amendment]

2. By amending § 4b.112 (c) (1) by deleting the phrase "of 1.4 V_{s_1}" and inserting in lieu thereof "chosen by the applicant, of not less than 1.2 V_{s_1} nor greater than 1.4 V_{s_1},".

3. By amending § 4b.131 (a) to read as follows:

§ 4b.131 Longitudinal control.

(a) It shall be possible at all speeds between the trim speeds selected in accordance with § 4b.112 (c) (1) and V_{s_1} to pitch the nose downward so that a prompt recovery to this selected trim speed can be made with the following combination of configurations:

(1) The airplane trimmed at the selected trim speed of § 4b.112 (c) (1),

(2) The landing gear extended,

(3) The wing flaps in a retracted, and in an extended position,

(4) Power off, and maximum continuous power on all engines.

§ 4b.151 [Amendment]

4. By amending § 4b.151 (a) by inserting in the last sentence after the words "control force" the phrase "and within the limits of elevator control power".

5. By amending § 4b.210 (b) (2) to read as follows:

§ 4b.210 General. * * *

(b) *Design air speeds.* * * *

(2) *Design maneuvering speed, V_A.* The design maneuvering speed, V_A, shall be equal to $V_{s_1}\sqrt{n}$ where n is the limit positive maneuvering load factor at V_C (see § 4b.211 (a)) and V_S is the stalling speed with flaps retracted. Both V_A and V_S shall be evaluated at the design weight and altitude under consideration. V_A need not be greater than either V_C or the speed at which the positive $C_{N_{max}}$ curve intersects the positive maneuver load factor line, whichever is the lesser. (See figure 4b.2.)

6. By amending § 4b.210 (c) by deleting the heading and the first sentence and inserting in lieu thereof the following, respectively:

(c) *Design fuel and oil loads.* The disposable load combinations shall include all fuel and oil loads in the range from zero fuel and oil to the maximum fuel and oil load selected by the applicant.

7. By amending § 4b.210 (c) (1) by inserting between the words "fuel" and "at" the phrase "and oil in the wing".

8. By amending § 4b.211 (a) (1) to read as follows:

§ 4b.211 Flight envelopes. * * *

(a) *Maneuvering load factors.* * * *

(1) The positive maneuvering load factor, n, shall have at least a value of 2.5, except as limited by § 4b.211 (a), at all speeds up to V_C, and n shall diminish linearly with speed from the value at V_C to a value at V_D equal to .75 of n at V_C or 2.0, whichever is the greater.

* * *

9. By amending Figure 4b–2 to read as follows:

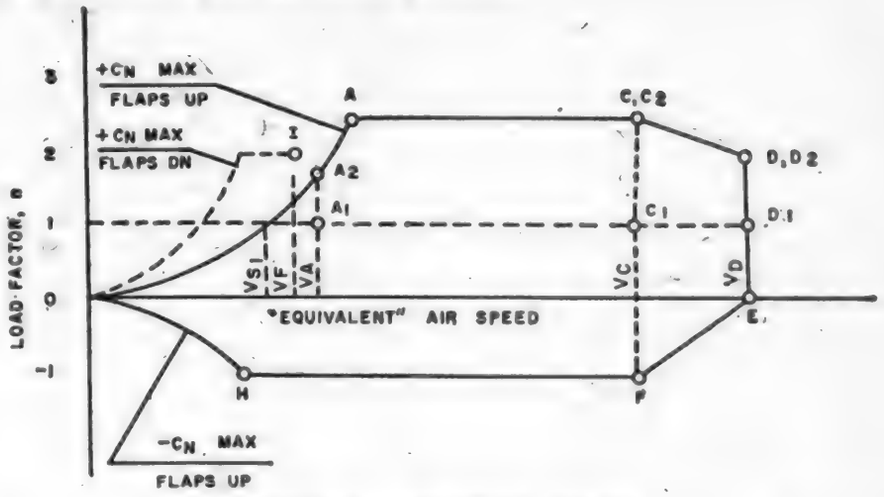

FIGURE 4b–2.—Maneuvering envelope.

10. By amending § 4b.213 (c) to read as follows:

§ 4b.213 Symmetrical flight conditions.

* * *

(c) *Maneuvering pitching conditions.* The following conditions involving pitching acceleration shall be investigated (see figure 4b–2):

(1) *Maximum elevator displacement at speed V_A.* The airplane shall be assumed to be flying in steady level flight (point A_1 on figure 4b–2) and the pitching control suddenly moved to obtain extreme positive pitching (nose up) except as limited by pilot effort, § 4b.220 (a).

(2) *Checked maneuver at speeds between V_A and V_D.* The airplane shall be assumed to be subjected to a checked maneuver from steady level flight (points A_1 to D_1 on figure 4b–2) and from the positive load factor (points A_2 and D_2 on figure 4b–2) as follows:

(i) A positive pitching acceleration (nose up), equal to at least the greater of the following values, shall be assumed to be attained concurrently with the airplane load factor of unity (points A_1 to D_1 on figure 4b–2) unless it is shown that lesser values could not be exceeded:

$$\frac{39}{V}n \text{ (radians/sec.}^2\text{); or}$$

$$\frac{39}{V}n\ (n-1.5) \text{ (radians/sec.}^2\text{)}$$

where:

n is the positive load factor, see § 4b.211 (a) (1), at the speed under consideration, and

V is the airplane equivalent speed, knots.

(ii) A negative pitching acceleration (nose down) equal to at least the greater of the following values shall be assumed to be attained concurrently with the airplane positive maneuvering load factor (points A_2 to D_2 on figure 4b–2) unless it is shown that lesser values could not be exceeded:

$$-\frac{26}{V}n \text{ (radians/sec.}^2\text{); or}$$

$$-\frac{26}{V}n\ (n-1.5) \text{ (radians/sec.}^2\text{)}$$

where:

n is the positive load factor, see § 4b.211 (a) (1), at the speed under consideration, and

V is the airplane equivalent speed, knots.

(3) *Specified control displacement.* In lieu of subparagraph (2) of this paragraph, a rational pitching control motion vs. time profile shall be established in accordance with § 4b.213 (a) (3) such that the design limit load factor as defined in § 4b.211 (a) (1) will not be exceeded. The airplane response shall result in pitching accelerations not less than those specified in subparagraph (2) unless it can be shown that lesser values cannot be exceeded.

§ 4b.216 [Amendment]

11. By amending § 4b.216 (a) by adding at the end thereof a new sentence to read as follows: "For turbine propeller installations the limit torque shall be obtained by multiplying the mean torque by a factor of 1.25."

12. By amending § 4b.216 (a) (3) by deleting the factor "2.0" and inserting in lieu thereof "1.6".

13. By adding a new § 4b.217 to read as follows:

§ 4b.217 Speed control devices.

When speed control devices (e. g., spoilers, drag flaps, etc.) are incorporated for use in en route conditions, the following conditions shall apply:

(a) The airplane shall be designed for the symmetrical maneuvers and gusts prescribed in § 4b.211 and the yawing maneuvers and lateral gusts in § 4b.215 with the device extended at all speeds up to the placard device extended speed.

(b) When the speed control device incorporates automatic operation or load limiting features, the airplane shall be designed for the maneuver and gust conditions prescribed in paragraph (a), at the speeds and corresponding device positions which the mechanism permits.

§ 4b.231 [Amendment]

14. By amending § 4b.231 (a) (1) by deleting the second sentence and inserting in lieu thereof: "It shall be acceptable to establish the coefficient of friction between the tires and the ground by considering the effects of skidding velocity and tire pressure, except that it need not be greater than 0.8."

§ 4b.235 [Amendment]

15. By amending § 4b.235 (e) (2) by adding at the end thereof a new sentence

to read as follows: "Where this condition results in a nose gear side load in excess of 0.8 times the vertical nose gear load, it shall be acceptable to limit the design nose gear side load to 0.8 times the vertical load with the unbalanced yawing moments assumed to be resisted by aircraft inertia forces."

§ 4b.236 [Amendment]

16. By amending § 4b.236 (a) by adding at the end thereof a new sentence to read as follows: "A tandem strut gear arrangement shall be considered to be a multiple-wheel unit."

17. By amending § 4b.236 (c) by adding at the beginning thereof a new sentence to read as follows: "For multiple-wheel gear units incorporating more than one shock strut, a rational distribution of the ground reactions between the deflated and inflated tires shall be made to account for the differences in shock strut extensions resulting from a deflated tire."

§ 4b.308 [Amendment]

18. By amending § 4b.308 (a) by adding at the end thereof a new sentence to read as follows: "If control surface flutter dampers are installed, it shall be shown that a single failure in the flutter damper system will not result in flutter which will preclude continued safe flight of the airplane at any speed up to V_D."

19. By amending § 4b.320 by adding a new title, by redesignating the present section as paragraph (a), and by adding a new paragraph (b) to read as follows:

§ 4b.320 Control systems.

(a) *General.* * * *

(b) *Power boost and power operated flight control systems.* Power boost and power operated control systems shall comply with the provisions of subparagraphs (1) and (2) of this paragraph.

(1) The design of these systems shall be such that any single failure in the power portion, or failure of the power source, shall not preclude continued safe flight and landing. An alternate system (power portion or power source) shall be immediately available and be completely independent of the normal power source.

(2) In the event of a single engine failure, both systems shall be operable. For airplanes with more than two engines, at least one shall be independent of the operation of any combination of two engines. It shall be shown by analysis that in event of loss of power on all engines, the airplane is not uncontrollable.

NOTE: The power portion shall include such items as valves, lines, cylinders, etc.

20. By amending § 4b.352 (b) by deleting from the first sentence the opening phrase "The windshield, its supporting structure, and other structure in front of the pilots" and inserting in lieu thereof "The windshield panes which the pilots will be directly behind in the normal conduct of their duties and the supporting structures for such panes", and by deleting the last sentence.

21. By amending § 4b.352 by redesignating paragraph (c) as paragraph (d) and by adding a new paragraph (c) to read as follows:

§ 4b.352 Windshields and windows.

* * *

(c) Means shall be provided to minimize the danger to the pilots from flying windshield fragments due to bird impact unless it can be shown by analysis or test that the probability of occurrence of a critical fragmentation condition is of a low order. The provisions of this paragraph are intended to apply to all transparent panes in the cockpit section which appear in the front view of the aircraft, are inclined 15 degrees or more to the longitudinal axis of the aircraft, and have any portion located so that fragmentation thereof will constitute a hazard to the pilots.

22. By amending § 4b.362 (c) (1) by deleting the table thereunder and inserting in lieu thereof the following table:

Passenger seating capacity	Emergency exits required on each side of the fuselage			
	Type I	Type II	Type III	Type IV
1–9 inclusive	----------	----------	----------	1
10–19 inclusive	----------	----------	1	----------
20–39 inclusive	----------	1	----------	1
40–59 inclusive	1	----------	----------	1
60–79 inclusive	1	----------	1	----------
80–99 inclusive	1	----------	1	1
100–129 inclusive	2	----------	----------	1
130–159 inclusive	2	----------	1	1
160–189 inclusive	2	1	1	----------
190–219 inclusive	2	2	----------	1

23. By amending § 4b.362 (d) by adding after the first sentence a new sentence to read as follows: "On airplanes with a seating capacity of 9 or less the minimum dimensions of the exit specified in paragraph (b) (4) shall be acceptable."

24. By amending § 4b.362 (e) by adding a new subparagraph (9) to read as follows:

§ 4b.362 Emergency evacuation. * * *

(e) *Emergency exit arrangement.* * * *

(9) Unless the airplane is divided into separate compartments each of which complies with the emergency evacuation provisions, compartmental doors shall be constructed so that they can be broken down by a crew member or passenger.

25. By amending § 4b.362 by adding a new paragraph (l) to read as follows:

(l) *Flotation means.* Flotation means shall be provided for each occupant irrespective of whether or not compliance is shown with § 4b.361.

26. By amending § 4b.383 (d) by adding a new subparagraph (5) to read as follows:

§ 4b.383 Cargo compartment classification. * * *

(d) *Class D.* * * *

(5) If full compliance cannot be shown with all of the provisions of this paragraph, compensating design features shall be incorporated in the compartment to insure protection from fire substantially equal to that resulting from full compliance with all of the provisions of this paragraph.

NOTE: An example of a compensating design feature may be the installation of an approved type smoke or fire detector.

§ 4b.386 [Amendment]

27. By amending § 4b.386 (l) by deleting the last sentence thereof.

28. By amending § 4b.407 to read as follows:

§ 4b.407 Reversing systems.

(a) Reversing systems intended for ground operation only shall be such that no single failure or malfunctioning of the system during normal or emergency operation will result in unwanted reverse thrust. Failure of structural elements need not be considered if occurrence of such failure is expected to be extremely remote.

(b) Turbo-jet reversing systems intended for inflight use shall be such that no unsafe condition will result during normal operations of the system, or from any failure or reasonably likely combination of failures of the reversing system, under all anticipated conditions of operation of the airplane.

29. By amending § 4b.410 (a) to read as follows:

§ 4b.410 General.

(a) The fuel system shall be constructed and arranged in such a manner as to insure a flow of fuel at a rate and pressure which have been established for proper engine functioning under all likely operating conditions, including all maneuvers for which the airplane is intended, with the flow margin prescribed in § 4b.413. (For fuel system instruments see § 4b.604.)

30. By amending § 4b.413 to read as follows:

§ 4b.413 Fuel flow demonstration.

(a) The maximum fuel flow available for use by the engine shall be demonstrated to be at least 125 percent of the fuel flow required to develop the maximum horsepower or thrust selected for airplane certification, when the airplane is in operating conditions appropriate to the use of such power or thrust.

(b) The ability of the system to provide at least 100 percent of the fuel flow required by the engines shall be demonstrated when the airplane is in the operating condition, including attitude and altitude, which represents the most adverse condition from the standpoint of fuel feed which the airplane is designed to attain.

(c) During the demonstration prescribed in paragraphs (a) and (b) of this section, the following provisions shall apply:

(1) For reciprocating engines fuel shall be delivered to the engine at a pressure within the limits specified in the engine type certificate.

(2) The quantity of fuel in the tank being considered shall not exceed the amount established as the unusable fuel supply for that tank, as determined by demonstrating compliance with the provisions of § 4b.415 (see also §§ 4b.420 and 4b.613 (b)), together with whatever minimum quantity of fuel it may be

necessary to add for the purpose of conducting the flow test.

(3) Such main pumps shall be used as are necessary for each operating condition and airplane attitude for which the demonstrations are made. For each main pump so used, the demonstration shall be repeated, substituting the appropriate emergency pump, when required, for the main pump. (See § 4b.430 (b).)

(4) If a fuel flowmeter is provided, the meter shall be blocked only during the flow test prescribed in paragraph (b) of this section and the fuel shall flow through the meter or its by-pass.

(5) It shall be acceptable to conduct the demonstrations prescribed in paragraphs (a) and (b) of this section by a ground test on the airplane or on a representative mock-up of the fuel system.

§ 4b.414 [Revocation]

31. By deleting § 4b.414.

§ 4b.415 [Amendment]

32. By amending § 4b.415 by deleting the reference "§ 4b.414" and inserting in lieu thereof "§ 4b.413".

§ 4b.416 [Amendment]

33. By amending § 4b.416 by amending paragraph (c) by inserting after the phrase "to regain the full fuel pressure" the words "and/or to regain the full power or thrust".

34. By amending § 4b.421 (a) and (c) to read as follows:

§ 4b.421 Fuel tank tests.

(a) Fuel tanks shall be demonstrated by test to be capable of withstanding the more critical of the pressures resulting from the conditions of subparagraphs (1) and (2) of this paragraph without failure or leakage as mounted in the airplane. In addition, tank surfaces subjected to more critical pressures resulting from the conditions of subparagraphs (3) and (4) of this paragraph shall be demonstrated to be capable of withstanding such pressures by means of either analyses or tests.

(1) Internal pressures of 3.5 psi;

(2) 125 percent of the maximum air pressure developed in the tank from ram effect;

(3) Fluid pressures developed during maximum limit accelerations and deflections of the airplane with a full tank;

(4) Fluid pressures developed during the most adverse combination of airplane roll and fuel load.

* * * * *

(c) In the case of nonmetallic tanks, a specimen tank of the same basic construction as that to be used in the airplane when installed in a representative test tank, shall be required to withstand only the tests specified in paragraph (b) (4) of this section with fuel at a temperature of 110° F. except that these tests shall not be required where satisfactory operating experience of a similar tank in a similar installation is shown.

35. By amending § 4b.430 to read as follows:

§ 4b.430 Fuel pumps.

(a) *Main pumps.* (1) Any fuel pump that is required for proper engine operation or to meet the fuel system requirements of this subpart, except for the provisions of paragraph (b) of this section, shall be considered a main pump.

(2) Provision shall be made to permit the by-pass of all positive displacement fuel pumps except fuel injection pumps approved as part of the engine.

(b) *Emergency pumps.* (1) Emergency pumps shall be provided and immediately available to permit supplying all engines with fuel in case of failure of any one main fuel pump except fuel injection pumps approved as part of the engine.

§ 4b.431 [Revocation]

36. By deleting § 4b.431.

§ 4b.435 [Amendment]

37. By amending § 4b.435 (d) by adding at the end thereof a new sentence to read as follows: "Means to indicate that the filter or screens are hindering fuel flow shall be provided the flight crew."

38. By adding a new § 4b.455 to read as follows:

§ 4b.455 Cooling of turbine engine installations.

For turbine engine installations, tests shall be conducted to demonstrate that all powerplant components for which temperature limits have been established are cooled within those limits.

§ 4b.461 [Amendment]

39. By amending § 4b.461 (c) by adding at the end thereof a new sentence to read as follows: "Means to indicate the functioning of the powerplant ice protection system shall be provided."

40. By amending § 4b.474a (b) to read as follows:

§ 4b.474a Reverse thrust controls. * * *

(b) Unless turbo-jet reverse thrust is approved for use in flight (see § 4b.407 (b)), the reverse thrust controls shall incorporate a means to prevent their inadvertent movement to a reverse thrust position. The means provided shall incorporate a positive lock or stop at the positive thrust and shall require a separate and distinct operation by the crew in order to displace the control from the forward thrust regime.

§ 4b.483 [Amendment]

41–43. By amending § 4b.483 (a) by deleting ", or" between the words "pressure" and "which" and inserting in lieu thereof the word "and" and by deleting the comma after the word "engine".

§ 4b.488 [Amendment]

44. By amending § 4b.488 by deleting the last sentence and inserting in lieu thereof a new sentence to read as follows: "This diaphragm shall comply with the provisions of § 4b.486, except that for turbine engine installations the diaphragm may be constructed of fire-resistant materials if penetration of fire from the compressor section to the combustion, turbine, and tailpine sections will not create an additional hazard."

45. By amending § 4b.603 to read as follows:

§ 4b.603 Flight and navigational instruments.

(See § 4b.612 for installation requirements.)

(a) Air-speed indicating system.

Critical speed limitations that vary with altitude shall be displayed directly on the appropriate instrument,

(b) Altimeter (sensitive or precision type),

(c) Rate-of-climb (vertical speed),

(d) Free air temperature,

(e) Clock (sweep-second pointer type),

(f) Rate-of-turn (gyroscopic type with integral bank or slip indicator),

(g) Bank and pitch (gyroscopically stabilized),

(h) Direction (gyroscopically stabilized magnetic and/or nonmagnetic type),

(i) Direction (nonstabilized type magnetic compass),

(j) Machmeter if an air-speed limitation results from compressibility effects.

46. By amending § 4b.612 (e) to read as follows:

§ 4b.612 Flight and navigational instruments. * * *

(e) *Instruments utilizing a power supply.* The following shall apply to each instrument required in § 4b.603 (f), (g), and (h) which utilizes a power supply:

(1) Each instrument shall have a visual type of power failure indicating means integrally with or located adjacent to the instrument, to indicate when adequate power is not being supplied to the instrument (see note) to sustain proper instrument performance. The power shall be sensed at or near the point where power enters the instrument. For electric instruments power shall be deemed adequate when voltage is between approved limits.

(2) Each instrument shall be provided with two independent sources of power and a means of selecting either power source. When duplicate independent instruments are installed, power source selection need not be provided if each instrument has an independent power source.

(3) The installation and power supply system shall be such that failure of one instrument, or the energy supply from one source, or a fault in any part of the power distribution system, will not interfere with the proper supply of energy from the other source (see also §§ 4b.606 (c) and 4b.623).

NOTE: The word "instrument" as used herein includes those devices which are physically contained in one unit and those devices which are composed of two or more physically separate units or components connected together; such as a remote indicating gyroscopic direction indicator which includes a magnetic sensing element, a gyroscopic unit, an amplifier, and an indicator connected together.

47. By amending § 4b.613 by adding a new paragraph (f) to read as follows:

§ 4b.613 Powerplant instruments. * * *

(f) *Fuel pressure indication.* (1) Provisions shall be made to measure the fuel pressure, in all systems supplying recip-

rocating engines, at a point downstream of all fuel pumps except fuel injection pumps. (For instrument requirements see § 4b.604 (c).)

(2) When necessary for the maintenance of the proper fuel delivery pressure, a connection shall be provided to transmit the carburetor air intake static pressure to the proper fuel pump relief valve connection. In such cases, to avoid erroneous fuel pressure reading, the gauge balance lines shall be independently connected to the carburetor inlet pressure.

48. By amending § 4b.625 (d) to read as follows:

§ 4b.625 Electrical equipment and installation. * * *

(d) Storage batteries shall be of such design and be so installed that:

(1) Safe cell temperatures and pressures are maintained during any probable charging or discharging condition. No uncontrolled increase in cell temperature shall result when the storage battery is recharged (after previous complete discharge) at maximum regulated voltage during a flight of maximum duration, under the most adverse cooling conditions likely to occur in service. Tests to demonstrate compliance with this regulation shall not be required if satisfactory operating experience with similar batteries and installations has shown that maintaining safe cell temperatures and pressures presents no problem.

(2) Explosive or toxic gases emitted by the storage battery in normal operation, or as a result of any probable malfunction in the charging system or battery installation, will not accumulate in hazardous quantities within the airplane.

(3) Corrosive fluids or gases which may be emitted or spilled from the storage battery shall not damage the surrounding airplane structure or adjacent essential equipment.

49. By adding a new § 4b.628 to read as follows:

§ 4b.628 Lightning strike protection.

Portions of the airplane which are insulated from the main body of the airplane shall be connected to it with appropriate lightning arrestors unless they are adequately shielded from lightning by other portions of the airplane.

§ 4b.632 [Amendment]

50. By amending § 4b.632 (d) by deleting the word "noncombustible" and inserting in lieu thereof the word "flame-resistant".

§ 4b.645 [Amendment]

51. By amending § 4b.645 (d) by deleting the last sentence thereof.

§ 4b.646 [Amendment]

52. By amending § 4b.646 (a) by deleting the word "at" and inserting in lieu thereof the word "near".

53. By adding a new § 4b.660 to read as follows:

§ 4b.660 Draining of fluids subject to freezing.

When liquids subject to freezing are drained overboard either in flight or during ground operation, drains shall be so located and designed to prevent the formation of ice on the airplane.

54. By amending § 4b.738 by adding a new paragraph (e) to read as follows:

§ 4b.738 Miscellaneous markings and placards. * * *

(e) *Air-speed placard.* A placard capable of being lighted shall be installed in clear view of each pilot giving the maximum airspeed for the flap extension in the take-off, approach, and landing positions.

Proposed Rules—Part 6

As a result of the 1958 Annual Airworthiness Review, changes are proposed herein with respect to various provisions of Part 6.

Several changes to the flight provisions are proposed. The currently effective regulations require demonstration of controllability with power failure at only one high-speed condition. The proposed revision to § 6.121 will make necessary the demonstration of controllability after power failure over the range of air speeds and altitudes for which certification is sought. Another proposal involving stability revises the current requirement for a positive slope of the stick position curve. It now appears that small negative gradients can be accepted without adversely affecting the handling characteristics. Therefore, while still requiring satisfactory controllability, the proposed change to § 6.123 will permit a slight negative slope of the stick position curve over the speed range investigated.

With respect to the structural provisions a number of revisions are proposed. At present, ground vibration tests are required to determine the natural frequencies of the blades and major structural components. In view of the experience gained since this requirement became effective, there no longer seems to be sufficient justification in the interest of safety to retain this provision. If any major component has a natural frequency which would be catastrophically excited by some operating parameter, such a condition would probably be revealed to the manufacturer through flight, ground operation, and resonance testing or by the stress measurements. Therefore, the deletion of paragraph (f) of § 6.203 is proposed. Under the current landing loads requirements the limit vertical load for the braked roll condition is based upon a load factor of 1.33. No provision is made for decreasing the load factor if rotor lift is present. To this end, a revision to § 6.235 is proposed to permit reducing the load factor to 1.0 for the condition where rotor lift exists. Another proposal affecting the structural provisions involves the landing gear shock absorption tests of § 6.237. The proposed revision will standardize the test procedure insofar as the attitude of the landing gear is concerned during the drop test.

With respect to the equipment provisions several changes are proposed. Under the present regulations if an emergency fuel pump is required, manual operation is permissible. Since in helicopters it is doubtful that the pilot would be able to actuate a manual pump in time to prevent engine stoppage, a revision is proposed to § 6.424 which provides for automatically actuated or continuously operating emergency fuel pumps. Another proposal revises § 6.604 such that the requirement for oil temperature indicators for all gear boxes is modified to require an oil temperature warning device for main rotor drive gear boxes. In addition a number of inconsistencies in substance and format within Part 6 and between Part 6 and Part 7 have been eliminated. Another proposal revises § 6.612 such that the requirements for air-speed indicator accuracy at low speeds are made more realistic. Justification for this change stems from the fact that it is extremely difficult to maintain these low speeds during climb-out and the pilot's attention is not likely to be concentrated on the air-speed indicator during the take-off maneuver much before climb-out speed is reached. A change to the equipment provisions was prompted by the availability of nickel-cadmium and silver-zinc type batteries as well as the lead-acid type. This proposal, without changing the existing requirements regarding the lead-acid batteries, will extend § 6.621 such that it will be sufficiently objective to cover any type of battery.

A proposal, revising § 6.420 and dealing with fuel system arrangement, has been included although not discussed at the Airworthiness Meeting. This proposal defines certain required installation features of the fuel system necessary to insure safety when multiengine rotorcraft employ a common fuel tank.

A number of changes are proposed which were not included in the Agenda for the 1958 Annual Airworthiness Meeting. These include the following: The current structural provisions of § 6.247 covering skid gear ground loading conditions do not permit more than the limit rotor lift to be used in the conduct of the ultimate drop test. Included is a proposal to permit where applicable the use of higher rotor lift in the ultimate drop test. Several additions are proposed to the design and construction provisions. One provides in § 6.320 that the control system detail parts be designed to minimize the possibility of incorrect assembly. Another, provides for design safety standards for power-actuated control systems in the event of any single failure in such systems. The current powerplant provisions of § 6.485 preclude the use of rigid flammable fluid-carrying lines and fittings in fire zones or fire areas if they are under pressure or attach directly to the engine or subject to relative motion between components. This proposal permits the use of rigid fuel lines even though under pressure, provided there is no other requirement for flexibility.

In addition there are included other changes which are of a relatively minor, clarifying, or editorial nature.

Several issues involving flight and performance provisions which were discussed at this year's Annual Airworthiness Meeting could not be resolved because of a lack of information. The proposals specifically dealt with the correction factor which should be applied

to the relative humidity when considering rotorcraft performance and the minimum operating speed performance which prescribes a hovering ceiling of not less than 4,000 feet. Further consideration will be given to these issues as additional data become available.

Another proposal, concerning changes to the current maintenance manual requirements, was discussed at this year's Annual Airworthiness Meeting, but could not be resolved. In view of the many issues raised, it is believed appropriate to hold this matter for future consideration, in conjunction with plans for a general review of the requirements for maintenance manuals.

In view of the foregoing, notice is hereby given that it is proposed that Part 6 of the Civil Air Regulations be amended:

1. By amending § 6.121 by adding a new paragraph (e) to read as follows:

§ 6.121 Controllability. * * *

(e) Controllability after power failure shall be demonstrated over the range of air speeds and altitudes for which certification is sought, starting with maximum continuous power at critical weight. Appropriate time delays consistent with the operating flight regime shall be used in taking corrective action.

2. By amending § 6.123 (b) by deleting the words "and maintain" in two places, by amending the introductory paragraphs of subparagraphs (1), (2), and (3), and by adding a note to read as follows:

§ 6.123 Stability. * * *

(b) *Static longitudinal stability.* * * *

(1) *Climb.* At all speeds from 15 percent of V_H below the best rate-of-climb speed to 20 percent of V_H above the best rate-of-climb, with: * * *

(2) *Cruise.* At all speeds from 0.7 V_H to 1.1 V_H with: * * *

(3) *Autorotation.* Throughout the speed range for which certification is sought, with: * * *

(4) *Hovering.* * * *

NOTE: It is considered acceptable for the stick position vs. speed curve to have a relatively constant negative slope within the speed range specified for each of the conditions in subparagraphs (1) through (3) of this paragraph, provided the stick displacement required is not greater than 10 percent of the total stick travel.

§ 6.203 [Amendment]

3. By amending § 6.203 by deleting paragraph (f) and by redesignating paragraph (g) as paragraph (f).

§ 6.235 [Amendment]

4. By amending § 6.235 by deleting the second sentence and inserting in lieu thereof a new sentence to read as follows: "The limit vertical load shall be based upon a load factor of 1.33 when the rotorcraft attitude is as specified in § 6.231 (a) (1); the limit vertical load factor may be reduced to 1.0 when the attitude is as specified in § 6.231 (a) (2)."

§ 6.237 [Amendment]

5. By amending § 6.237 (a) by adding at the end thereof a new sentence to read as follows: "The attitude in which the landing gear unit is tested shall be such as to simulate the landing condition which is critical from the standpoint of energy to be absorbed by the particular unit."

§ 6.246 [Amendment]

6. By amending § 6.246 (f) by deleting the second sentence and inserting in lieu thereof a new sentence to read as follows: "The limit vertical load shall be based upon a load factor of 1.33 when the rotorcraft attitude is as specified in paragraph (b) of this section; the limit vertical load factor may be reduced to 1.0 when the attitude is as specified in paragraph (a) of this section."

§ 6.247 [Amendment]

7. By amending § 6.247 (a) by adding at the end thereof the following words "with the assumed rotor lift not to exceed 1.5 times the rotor lift used in the limit drop tests prescribed in § 6.237 (a)."

§ 6.230 [Amendment]

8. By amending § 6.320 by adding before the parenthetical expression a new sentence to read as follows: "The elements of the flight control system shall be designed or shall be distinctively and permanently marked to minimize the possibility of incorrect assembly which could result in the malfunctioning of the control system."

§ 6.324 [Amendment]

9. By amending § 6.324 by deleting the phrase "for the control system" and inserting in lieu thereof the phrase "in § 6.225".

10. By adding a new § 6.328 to read as follows:

§ 6.328 Power-actuated control systems.

The design of the control system shall be such that the rotorcraft can continue to be flown and landed safely in the event of any single failure in the power actuating system.

11. By amending § 6.420 by adding a new section title, by redesignating the present title and text as paragraph (a), and by adding a new paragraph (b) to read as follows:

§ 6.420 Fuel system design and arrangement. * * *

(b) *Fuel system independence.* The design of the fuel system for multiengine rotorcraft shall be such as to permit fuel to be supplied to each engine through a system independent of all portions of the systems supplying fuel to other engines, except that separate fuel tanks need not be provided for each engine. The following features shall be provided if a single fuel tank is employed on a multiengine rotorcraft:

(1) Independent tank outlets for each engine. Each outlet shall incorporate a shutoff valve at the tank. This valve may also serve as the fire wall shutoff valve required by § 6.426 provided the line between the valve and the engine compartment does not contain a hazardous amount of fuel which can drain into the engine compartment.

(2) At least 2 vents arranged to minimize the possibility of both vents becoming obstructed simultaneously.

(3) Filler caps designed to minimize the possibility of incorrect installation or loss in flight.

(4) The fuel system from the tank outlet to the engine shall be entirely independent of any portion of the system supplying fuel to the other engine(s).

§ 6.421 [Amendment]

12. By amending § 6.421 by deleting the reference "6.741 (g)" in the parenthetical expression at the end of the section and inserting in lieu thereof "6.741 (f)".

§ 6.424 [Amendment]

13. By amending § 6.424 by adding two new sentences between the first and second sentences to read as follows: "The emergency pump shall be actuated automatically or operated continuously such that sufficient fuel pressure will be maintained to prevent engine stoppage after failure of the mechanical pump. Means shall be provided for indicating to the pilot when the emergency system is in operation."

§ 6.445 [Deletion]

14. By deleting § 6.445.

§ 6.446 [Deletion]

15. By deleting § 6.446.

§ 6.485 [Amendment]

16. By amending § 6.485 (a) by deleting ", or" between the words "pressure" and "which" and inserting in lieu thereof the word "and" and by deleting the comma after the word "engine".

17. By amending § 6.604 to read as follows:

§ 6.604 Powerplant instruments.

(See § 6.613 for installation requirements.)

(a) Carburetor air temperature indicator for each engine equipped with a preheater which is capable of providing a heat rise in excess of 60° F.

(b) Cylinder head temperature (1) cator for each air-cooled engine or ents craft equipped with cooling shutter ular the case of rotorcraft which do not cooling shutters, an indicator shall be provided if compliance with the pro sions of § 6.451 is demonstrated in a co dition other than the most critic cooling flight condition.

(c) Coolant temperature indicator for each liquid-cooled engine.

(d) Fuel pressure indicator for each engine (if pump-fed engines are used).

(e) Fuel quantity indicator for each tank.

(f) Manifold pressure indicator for each engine (if altitude engines are used).

(g) Oil temperature warning device to indicate when the oil temperature in any main rotor drive gear box exceeds a safe value.

(h) Oil pressure warning device for each pressure-lubricated main rotor drive gear box to indicate when the oil pressure falls below a safe value.

rocating engines, at a point downstream of all fuel pumps except fuel injection pumps. (For instrument requirements see § 4b.604 (c).)

(2) When necessary for the maintenance of the proper fuel delivery pressure, a connection shall be provided to transmit the carburetor air intake static pressure to the proper fuel pump relief valve connection. In such cases, to avoid erroneous fuel pressure reading, the gauge balance lines shall be independently connected to the carburetor inlet pressure.

48. By amending § 4b.625 (d) to read as follows:

§ 4b.625 Electrical equipment and installation. * * *

(d) Storage batteries shall be of such design and be so installed that:

(1) Safe cell temperatures and pressures are maintained during any probable charging or discharging condition. No uncontrolled increase in cell temperature shall result when the storage battery is recharged (after previous complete discharge) at maximum regulated voltage during a flight of maximum duration, under the most adverse cooling conditions likely to occur in service. Tests to demonstrate compliance with this regulation shall not be required if satisfactory operating experience with similar batteries and installations has shown that maintaining safe cell temperatures and pressures presents no problem.

(2) Explosive or toxic gases emitted by the storage battery in normal operation, or as a result of any probable malfunction in the charging system or battery installation, will not accumulate in hazardous quantities within the airplane.

(3) Corrosive fluids or gases which may be emitted or spilled from the storage battery shall not damage the surrounding airplane structure or adjacent essential equipment.

49. By adding a new § 4b.628 to read as follows:

§ 4b.628 Lightning strike protection.

Portions of the airplane which are insulated from the main body of the airplane shall be connected to it with appropriate lightning arrestors unless they are adequately shielded from lightning by other portions of the airplane.

§ 4b.632 [Amendment]

50. By amending § 4b.632 (d) by deleting the word "noncombustible" and inserting in lieu thereof the word "flame-resistant".

§ 4b.645 [Amendment]

51. By amending § 4b.645 (d) by deleting the last sentence thereof.

§ 4b.646 [Amendment]

52. By amending § 4b.646 (a) by deleting the word "at" and inserting in lieu thereof the word "near".

53. By adding a new § 4b.660 to read as follows:

§ 4b.660 Draining of fluids subject to freezing.

When liquids subject to freezing are drained overboard either in flight or during ground operation, drains shall be so located and designed to prevent the formation of ice on the airplane.

54. By amending § 4b.738 by adding a new paragraph (e) to read as follows:

§ 4b.738 Miscellaneous markings and placards. * * *

(e) *Air-speed placard.* A placard capable of being lighted shall be installed in clear view of each pilot giving the maximum airspeed for the flap extension in the take-off, approach, and landing positions.

Proposed Rules—Part 6

As a result of the 1958 Annual Airworthiness Review, changes are proposed herein with respect to various provisions of Part 6.

Several changes to the flight provisions are proposed. The currently effective regulations require demonstration of controllability with power failure at only one high-speed condition. The proposed revision to § 6.121 will make necessary the demonstration of controllability after power failure over the range of air speeds and altitudes for which certification is sought. Another proposal involving stability revises the current requirement for a positive slope of the stick position curve. It now appears that small negative gradients can be accepted without adversely affecting the handling characteristics. Therefore, while still requiring satisfactory controllability, the proposed change to § 6.123 will permit a slight negative slope of the stick position curve over the speed range investigated.

With respect to the structural provisions a number of revisions are proposed. At present, ground vibration tests are required to determine the natural frequencies of the blades and major structural components. In view of the experience gained since this requirement became effective, there no longer seems to be sufficient justification in the interest of safety to retain this provision. If any major component has a natural frequency which would be catastrophically excited by some operating parameter, such a condition would probably be revealed to the manufacturer through flight, ground operation, and resonance testing or by the stress measurements. Therefore, the deletion of paragraph (f) of § 6.203 is proposed. Under the current landing loads requirements the limit vertical load for the braked roll condition is based upon a load factor of 1.33. No provision is made for decreasing the load factor if rotor lift is present. To this end, a revision to § 6.235 is proposed to permit reducing the load factor to 1.0 for the condition where rotor lift exists. Another proposal affecting the structural provisions involves the landing gear shock absorption tests of § 6.237. The proposed revision will standardize the test procedure insofar as the attitude of the landing gear is concerned during the drop test.

With respect to the equipment provisions several changes are proposed. Under the present regulations if an emergency fuel pump is required, manual operation is permissible. Since in helicopters it is doubtful that the pilot would be able to actuate a manual pump in time to prevent engine stoppage, a revision is proposed to § 6.424 which provides for automatically actuated or continuously operating emergency fuel pumps. Another proposal revises § 6.604 such that the requirement for oil temperature indicators for all gear boxes is modified to require an oil temperature warning device for main rotor drive gear boxes. In addition a number of inconsistencies in substance and format within Part 6 and between Part 6 and Part 7 have been eliminated. Another proposal revises § 6.612 such that the requirements for air-speed indicator accuracy at low speeds are made more realistic. Justification for this change stems from the fact that it is extremely difficult to maintain these low speeds during climb-out and the pilot's attention is not likely to be concentrated on the air-speed indicator during the take-off maneuver much before climb-out speed is reached. A change to the equipment provisions was prompted by the availability of nickel-cadmium and silver-zinc type batteries as well as the lead-acid type. This proposal, without changing the existing requirements regarding the lead-acid batteries, will extend § 6.621 such that it will be sufficiently objective to cover any type of battery.

A proposal, revising § 6.420 and dealing with fuel system arrangement, has been included although not discussed at the Airworthiness Meeting. This proposal defines certain required installation features of the fuel system necessary to insure safety when multiengine rotorcraft employ a common fuel tank.

A number of changes are proposed which were not included in the Agenda for the 1958 Annual Airworthiness Meeting. These include the following: The current structural provisions of § 6.247 covering skid gear ground loading conditions do not permit more than the limit rotor lift to be used in the conduct of the ultimate drop test. Included is a proposal to permit where applicable the use of higher rotor lift in the ultimate drop test. Several additions are proposed to the design and construction provisions. One provides in § 6.320 that the control system detail parts be designed to minimize the possibility of incorrect assembly. Another, provides for design safety standards for power-actuated control systems in the event of any single failure in such systems. The current powerplant provisions of § 6.485 preclude the use of rigid flammable fluid-carrying lines and fittings in fire zones or fire areas if they are under pressure or attach directly to the engine or subject to relative motion between components. This proposal permits the use of rigid fuel lines even though under pressure, provided there is no other requirement for flexibility.

In addition there are included other changes which are of a relatively minor, clarifying, or editorial nature.

Several issues involving flight and performance provisions which were discussed at this year's Annual Airworthiness Meeting could not be resolved because of a lack of information. The proposals specifically dealt with the correction factor which should be applied

to the relative humidity when considering rotorcraft performance and the minimum operating speed performance which prescribes a hovering ceiling of not less than 4,000 feet. Further consideration will be given to these issues as additional data become available.

Another proposal, concerning changes to the current maintenance manual requirements, was discussed at this year's Annual Airworthiness Meeting, but could not be resolved. In view of the many issues raised, it is believed appropriate to hold this matter for future consideration, in conjunction with plans for a general review of the requirements for maintenance manuals.

In view of the foregoing, notice is hereby given that it is proposed that Part 6 of the Civil Air Regulations be amended:

1. By amending § 6.121 by adding a new paragraph (e) to read as follows:

§ 6.121 Controllability. * * *

(e) Controllability after power failure shall be demonstrated over the range of air speeds and altitudes for which certification is sought, starting with maximum continuous power at critical weight. Appropriate time delays consistent with the operating flight regime shall be used in taking corrective action.

2. By amending § 6.123 (b) by deleting the words "and maintain" in two places, by amending the introductory paragraphs of subparagraphs (1), (2), and (3), and by adding a note to read as follows:

§ 6.123 Stability. * * *

(b) *Static longitudinal stability.* * * *

(1) *Climb.* At all speeds from 15 percent of V_H below the best rate-of-climb speed to 20 percent of V_H above the best rate-of-climb, with: * * *

(2) *Cruise.* At all speeds from 0.7 V_H to 1.1 V_H with: * * *

(3) *Autorotation.* Throughout the speed range for which certification is sought, with: * * *

(4) *Hovering.* * * *

NOTE: It is considered acceptable for the stick position vs. speed curve to have a relatively constant negative slope within the speed range specified for each of the conditions in subparagraphs (1) through (3) of this paragraph, provided the stick displacement required is not greater than 10 percent of the total stick travel.

§ 6.203 [Amendment]

3. By amending § 6.203 by deleting paragraph (f) and by redesignating paragraph (g) as paragraph (f).

§ 6.235 [Amendment]

4. By amending § 6.235 by deleting the second sentence and inserting in lieu thereof a new sentence to read as follows: "The limit vertical load shall be based upon a load factor of 1.33 when the rotorcraft attitude is as specified in § 6.231 (a) (1); the limit vertical load factor may be reduced to 1.0 when the attitude is as specified in § 6.231 (a) (2)."

§ 6.237 [Amendment]

5. By amending § 6.237 (a) by adding at the end thereof a new sentence to read as follows: "The attitude in which the landing gear unit is tested shall be such as to simulate the landing condition which is critical from the standpoint of energy to be absorbed by the particular unit."

§ 6.246 [Amendment]

6. By amending § 6.246 (f) by deleting the second sentence and inserting in lieu thereof a new sentence to read as follows: "The limit vertical load shall be based upon a load factor of 1.33 when the rotorcraft attitude is as specified in paragraph (b) of this section; the limit vertical load factor may be reduced to 1.0 when the attitude is as specified in paragraph (a) of this section."

§ 6.247 [Amendment]

7. By amending § 6.247 (a) by adding at the end thereof the following words "with the assumed rotor lift not to exceed 1.5 times the rotor lift used in the limit drop tests prescribed in § 6.237 (a)."

§ 6.230 [Amendment]

8. By amending § 6.320 by adding before the parenthetical expression a new sentence to read as follows: "The elements of the flight control system shall be designed or shall be distinctively and permanently marked to minimize the possibility of incorrect assembly which could result in the malfunctioning of the control system."

§ 6.324 [Amendment]

9. By amending § 6.324 by deleting the phrase "for the control system" and inserting in lieu thereof the phrase "in § 6.225".

10. By adding a new § 6.328 to read as follows:

§ 6.328 Power-actuated control systems.

The design of the control system shall be such that the rotorcraft can continue to be flown and landed safely in the event of any single failure in the power actuating system.

11. By amending § 6.420 by adding a new section title, by redesignating the present title and text as paragraph (a), and by adding a new paragraph (b) to read as follows:

§ 6.420 Fuel system design and arrangement. * * *

(b) *Fuel system independence.* The design of the fuel system for multiengine rotorcraft shall be such as to permit fuel to be supplied to each engine through a system independent of all portions of the systems supplying fuel to other engines, except that separate fuel tanks need not be provided for each engine. The following features shall be provided if a single fuel tank is employed on a multiengine rotorcraft:

(1) Independent tank outlets for each engine. Each outlet shall incorporate a shutoff valve at the tank. This valve may also serve as the fire wall shutoff valve required by § 6.426 provided the line between the valve and the engine compartment does not contain a hazardous amount of fuel which can drain into the engine compartment.

(2) At least 2 vents arranged to minimize the possibility of both vents becoming obstructed simultaneously.

(3) Filler caps designed to minimize the possibility of incorrect installation or loss in flight.

(4) The fuel system from the tank outlet to the engine shall be entirely independent of any portion of the system supplying fuel to the other engine(s).

§ 6.421 [Amendment]

12. By amending § 6.421 by deleting the reference "6.741 (g)" in the parenthetical expression at the end of the section and inserting in lieu thereof "6.741 (f)".

§ 6.424 [Amendment]

13. By amending § 6.424 by adding two new sentences between the first and second sentences to read as follows: "The emergency pump shall be actuated automatically or operated continuously such that sufficient fuel pressure will be maintained to prevent engine stoppage after failure of the mechanical pump. Means shall be provided for indicating to the pilot when the emergency system is in operation."

§ 6.445 [Deletion]

14. By deleting § 6.445.

§ 6.446 [Deletion]

15. By deleting § 6.446.

§ 6.485 [Amendment]

16. By amending § 6.485 (a) by deleting ", or" between the words "pressure" and "which" and inserting in lieu thereof the word "and" and by deleting the comma after the word "engine".

17. By amending § 6.604 to read as follows:

§ 6.604 Powerplant instruments.

(See § 6.613 for installation requirements.)

(a) Carburetor air temperature indicator for each engine equipped with a preheater which is capable of providing a heat rise in excess of 60° F.

(b) Cylinder head temperature indicator for each air-cooled engine or rotorcraft equipped with cooling shutters. In the case of rotorcraft which do not have cooling shutters, an indicator shall be provided if compliance with the provisions of § 6.451 is demonstrated in a condition other than the most critical cooling flight condition.

(c) Coolant temperature indicator for each liquid-cooled engine.

(d) Fuel pressure indicator for each engine (if pump-fed engines are used).

(e) Fuel quantity indicator for each tank.

(f) Manifold pressure indicator for each engine (if altitude engines are used).

(g) Oil temperature warning device to indicate when the oil temperature in any main rotor drive gear box exceeds a safe value.

(h) Oil pressure warning device for each pressure-lubricated main rotor drive gear box to indicate when the oil pressure falls below a safe value.

(i) Oil pressure indicator for each engine.

(j) Oil quantity indicator for each oil tank (see § 6.613 (d)).

(k) Oil temperature indicator for each engine.

(l) Tachometer to indicate engine rpm and rotor rpm for the main rotor, or for each main rotor, the speed of which can vary appreciably with respect to another main rotor.

18. By adding a new § 6.606 to read as follows:

§ 6.606 Equipment, systems, and installations.

(a) *Functioning and reliability.* All equipment, systems, and installations, the functioning of which is necessary in showing compliance with the regulations in this subchapter, shall be designed and installed to insure that they will perform their intended function reliably under all reasonably foreseeable operating conditions.

(b) *Hazards.* All equipment, systems, and installations shall be designed to safeguard against hazards to the rotorcraft in the event of their malfunctioning or failure.

§ 6.612 [Amendment]

19. By amending § 6.612 (a) by deleting the last sentence and inserting in lieu thereof a new sentence to read as follows: "The allowable installation error shall not be exceeded at any forward speed above 80 percent of the climb-out speed."

§ 6.613 [Amendment]

20. By amending § 6.613 by deleting paragraphs (e), (f), (g), and (h).

21. By amending § 6.621 to read as follows:

§ 6.621 Storage battery design and installation.

Storage batteries shall be of such design and so installed that:

(a) Safe cell temperatures and pressures are maintained during any probable charging or discharging condition. No uncontrolled increase in cell temperature shall result when the storage battery is recharged (after previous complete discharge) at maximum regulated voltage, during a flight of maximum duration, under the most adverse cooling conditions likely to occur in service. Tests to demonstrate compliance with this regulation shall not be required if satisfactory operating experience with similar batteries and installations has shown that maintaining safe cell temperatures and pressures presents no problem.

(b) Explosive or toxic gases emitted by the storage battery in normal operation, or as the result of any probable malfunction in the charging system or battery installation, will not accumulate in hazardous quantities within the aircraft.

(c) Corrosive fluids or gases which may be emitted or spilled from the storage battery shall not damage surrounding rotorcraft structure or adjacent essential equipment.

§ 6.632 [Amendment]

22. By amending § 6.632 (e) by deleting the word "noncombustible" and inserting in lieu thereof the word "flame-resistant".

§ 6.715 [Amendment]

23. By amending § 6.715 by deleting the parenthetical expression at the end of the section and inserting in lieu thereof "(See § 6.743 (c).)"

§ 6.736 [Amendment]

24. By amending § 6.736 by deleting the parenthetical expression at the end of the section and inserting in lieu thereof "(See § 6.741 (f).)"

§ 6.741 [Amendment]

25. By amending § 6.741 by deleting paragraph (f) and by redesignating paragraph (g) as paragraph (f).

26. By amending § 6.743 by deleting from the introductory paragraph the phrase "in paragraphs (a) and (b)" and inserting in lieu thereof the phrase "in paragraphs (a) through (c)" and by adding a new paragraph (c) to read as follows:

§ 6.743 Performance information. * * *

(c) Sufficient information to outline the limiting heights and corresponding speeds for safe landing after power failure. (See § 6.715.)

Proposed Rules—Part 7

As a result of the 1958 Annual Airworthiness Review, changes are proposed herein with respect to various provisions of Part 7.

Several substantive changes to the flight provisions are proposed. The current regulations in the general provisions prohibit Category B rotorcraft from unlimited night and instrument flight. The proposed revision to § 7.20 no longer provides for a blanket prohibition, however, it does not preclude particular types of operation from being disapproved under these conditions. Another flight provision, involving Category B rotorcraft, is included, based on the belief that it is both desirable and necessary to acquire certain data in order to formulate operating rules to insure adequate and safe heliports. Therefore, § 7.114 is revised such that the establishment of the rejected take-off flight paths as well as the take-off and climb-out flight paths is necessary. It is currently required by § 7.121 that controllability be demonstrated with power failure at only one high speed condition. The proposed revision will make demonstration of controllability after power failure over the range of air speeds and altitudes for which certification is sought. Another proposal involving stability revises the current requirement for a positive slope of the stick position curve. It now appears that small negative gradients can be accepted without adversely affecting the handling characteristics. Therefore, while still requiring satisfactory controllability, the proposed change to § 7.123 will permit a slight negative slope of the stick position curve over the speed range investigated.

With respect to the structural provisions, a number of substantive revisions are proposed. At present, ground vibration tests are required to determine the natural frequencies of the blades and major structural components. In view of the experience gained since this requirement became effective, there no longer seems to be sufficient justification in the interest of safety to retain this provision. If any major component has a natural frequency which would be catastrophically excited by some operating parameter, such a condition would probably be revealed to the manufacturer through flight, ground operations, and resonance testing or by the stress measurements. Therefore, the deletion of paragraph (f) of § 7.203 is proposed. Under the current regulations, adherence to the design loads established for primary control systems precludes the use of some otherwise acceptable installations. In order to avoid this, a revision to § 7.225 is proposed which permits a rational approach to be used in establishing design loads which will be sufficient to insure a satisfactory control system. Another structural provision requires that the limit vertical load for the braked roll condition be based upon a load factor of 1.33. No provision is made for decreasing the load factor if rotor lift is present. Therefore, a change to § 7.235 is proposed which will permit reducing the load factor to 1.0 for the conditions where rotor lift exists.

Several changes are proposed to the design and construction provisions. One change clarifies the current regulation with respect to the loads to be used in the operating tests of § 7.324. Another proposal has to do with the landing gear shock absorption tests of § 7.332. The proposed revision standardizes the test procedure insofar as the attitude of the landing gear is concerned during the drop test. A proposal dealing with passenger emergency exits covered in § 7.357 is included to provide some latitude in the requirement for emergency exits, in consideration of the fact that rotorcraft configurations generally do not lend themselves readily to the installation of emergency exits on the top, bottom, and ends of the rotorcraft.

With respect to the equipment provisions, several changes are proposed. One proposal revises § 7.612 such that the current requirements for air-speed indicator accuracy at low speeds are made less severe. Justification of this change stems from the fact that it is extremely difficult to maintain these low speeds during climb-out and the pilot's attention is not likely to be concentrated on the air-speed indicator during the take-off maneuver much before climb-out speed is reached. The other change to the equipment provisions was prompted by the availability of nickel-cadmium and silver-zinc type batteries as well as the lead-acid type. This proposal, without changing the existing requirements regarding lead-acid batteries, will extend § 7.625 such that it will be sufficiently objective to cover any type of battery.

A number of changes are proposed which were not included in the agenda for the 1958 Annual Airworthiness

Meeting. The current structural provisions do not provide design criteria for tail wheel type gears employed on transport category rotorcraft. It is proposed that the tail wheel type landing gear ground loading conditions of Part 6 be added to Part 7. Several additions are proposed to the design and construction provisions. One provides by an addition to § 7.320 that the control system detail parts be designed to minimize the possibility of incorrect assembly. Another provides for design safety standards for power-actuated control systems in the event of any single failure in such systems. The current powerplant provisions preclude the use of rigid flammable fluid-carrying lines and fittings in fire zones or fire areas if they are under pressure or attached directly to the engine or are subject to relative motion between components. This proposal permits the use of rigid fuel lines even though under pressure, provided there is no other requirement for flexibility.

A reduction in the amount of rotor drive system and control mechanism testing was proposed and discussed at the Airworthiness Meeting, but is not included herein. Consideration of this proposal, particularly in the face of support for increased testing, appears to justify retaining the provisions of the existing § 7.405.

Another proposal concerning changes to the current maintenance manual requirements was discussed at this year's Annual Airworthiness Meeting, but could not be resolved. In view of the many issues raised, it is believed appropriate to hold this matter for future consideration in conjunction with plans for a general review of the requirements for maintenance manuals.

In view of the foregoing, notice is hereby given that it is proposed that Part 7 of the Civil Air Regulations be amended:

1. By amending § 7.20 (c) to read as follows:

§ 7.20 Rotorcraft categories. * * *

(c) For night or instrument certification the rotorcraft shall have such additional flight characteristics as the Administrator finds are required for safe operation under these conditions.

§ 7.114 [Amendment]

2. By amending § 7.114 (b) by deleting the first sentence and inserting in lieu thereof the following new sentence: "The take-off, climb-out, and rejected take-off flight path shall be established with the most unfavorable center of gravity position."

3. By amending § 7.121 by adding a new paragraph (e) to read as follows:

§ 7.121 Controllability. * * *

(e) Controllability after power failure shall be demonstrated over the range of air speeds and altitudes for which certification is sought, starting with maximum continuous power at critical weight. Appropriate time delays, consistent with the operating flight regimes, shall be used in taking corrective action.

4. By amending § 7.123 (b) by deleting the words "and maintain" in two places, by amending the introductory paragraphs of subparagraphs (1), (2), and (3), and by adding a note to read as follows:

§ 7.123 Stability. * * *

(b) *Static longitudinal stability.* * * *

(1) *Climb.* At all speeds from 15 percent of V_H below the best rate-of-climb speed to 20 percent of V_H above the best rate-of-climb with: * * *

(2) *Cruise.* At all speeds from 0.7 V_H to 1.1 V_H with: * * *

(3) *Autorotation.* Throughout the speed range for which certification is sought with: * * *

(4) *Hovering.* * * *

NOTE: It is considered acceptable for the stick position vs speed curve to have a relatively constant negative slope within the speed range specified for each of the conditions in subparagraphs (1) through (3) of this paragraph, provided the stick displacement required is not greater than 10 percent of the total stick travel.

§ 7.203 [Amendment]

5. By amending § 7.203 by deleting paragraph (f) and redesignating paragraph (g) as paragraph (f).

§ 7.225 [Amendment]

6. By amending § 7.225 (a) by deleting from the introductory paragraph the last part of the last sentence which reads "except that design loads less than those resulting from 0.60 of the specified pilot applied forces shall not be employed" and by inserting in lieu thereof two new sentences to read as follows: "The minimum design loads shall in any case be sufficient to provide a rugged system for service use, including consideration of fatigue, jamming, ground gusts, control inertia, and friction loads. In the absence of a rational analysis, the design loads resulting from 0.60 of the specified pilot applied forces shall be considered as acceptable minimum design loads."

§ 7.235 [Amendment]

7. By amending § 7.235 by deleting the second sentence and inserting in lieu thereof a new sentence to read as follows: "The limit vertical load shall be based upon a load factor of 1.33 when the rotorcraft attitude is as specified in § 7.23 (a) (1); the limit vertical load factor may be reduced to 1.0 when the attitude is as specified in § 7.231 (a) (2).

8. By adding a new § 7.246 to read as follows:

§ 7.246 Tail-wheel type landing gear ground loading conditions.

The structure of a rotorcraft equipped with landing gears arranged such that two wheels are located forward and one wheel is located aft of the center of gravity shall be assumed to be subjected to the loading conditions in accordance with paragraphs (a) through (h) of this section:

(a) *Level landing on forward gear only.* The rotorcraft shall be assumed to be in the level landing attitude with only the forward wheels contacting the ground.

(1) Vertical loads shall be applied in accordance with the provisions of § 7.230.

(2) The vertical loads specified in subparagraph (1) of this paragraph shall be combined with a drag load at each wheel axle of not less than 25 percent of the respective vertical load.

(3) In the conditions of subparagraphs (1) and (2) of this paragraph, unbalanced pitching moments shall be assumed resisted by angular inertia forces.

(b) *Level landing; all wheels contacting simultaneously.* The rotorcraft shall be assumed to be in the level landing attitude with all wheels contacting the ground simultaneously.

(1) Vertical loads shall be applied in accordance with the provisions of § 7.230.

(2) The vertical loads specified in subparagraph (1) of this paragraph shall be combined with a drag load at each wheel axle of not less than 25 percent of the respective vertical load. Unbalanced pitching moments shall be assumed resisted by angular inertia forces.

(c) *Nose-up landing condition.* The rotorcraft shall be assumed to contact the ground on the rear wheel only at the maximum nose-up attitude to be expected under all operational landing conditions including landings in autorotation. The conditions of this paragraph need not be applied if it can be demonstrated that the probability of landing with initial contact on the rear wheel is extremely remote. In determining the applicable ground loads, it shall be acceptable to use a rational method to account for the distance between the direction of the rear wheel ground reactions and the rotorcraft c. g.

(1) Vertical loads shall be applied in accordance with the provisions of § 7.230.

(2) The vertical loads specified in subparagraph (1) of this paragraph shall be combined with a drag load at the wheel axle of not less than 25 percent of the vertical load.

(d) *One-wheel landing condition.* The rotorcraft shall be assumed in the level attitude to contact the ground on one of the wheels located forward of the c. g. The vertical load shall be the same as that obtained on the one side in the condition specified in paragraph (a) (1) of this section. Unbalanced moments shall be assumed resisted by angular inertia forces.

(e) *Side load landing condition.* The rotorcraft shall be assumed in the landing attitudes of paragraphs (a) and (b) of this section. Side loads in combination with one-half the maximum vertical ground reactions obtained in the landing conditions of paragraphs (a) (1) and (b) (1) of this section shall be applied at each wheel. The magnitude of the side loads on the forward wheels in each case shall be 0.8 of the vertical reaction (on one side) acting inward and 0.6 of the vertical reaction (on the other side) acting outward. The magnitude of the side load on the rear wheel shall be equal to 0.8 of the vertical reaction. These loads shall be applied at the ground contact point, unless the landing gear is of the full-swiveling type in which case the loads shall be applied at the center of the axle. When a lock, steering device, or shimmy damper is provided, the swiveled wheel shall also be assumed to

be in the trailing position with the side load acting at the ground contact point.

(f) *Braked roll condition.* The rotorcraft attitudes shall be assumed to be the same as those prescribed in paragraphs (a) and (b) of this section with the shock absorbers deflected to their static position. The limit vertical load shall be based upon a load factor of 1.33 when the rotorcraft attitude is as specified in paragraph (b) of this section; the limit load factor may be reduced to 1.0 when the attitude is as specified in paragraph (a) of this section. A drag load equal to the vertical load multiplied by a coefficient of friction of 0.8 shall be applied at the ground contact point of each wheel equipped with brakes, except that the drag load need not exceed the maximum value based on limiting brake torque.

(g) *Rear wheel turning condition.* The rotorcraft shall be assumed to be in the static ground attitude with the shock absorbers and tires deflected to their static position. A vertical ground reaction equal to the static load on the rear wheel in combination with a side component of equal magnitude shall be assumed. When a swivel is provided, the rear wheel shall be assumed to be swiveled 90 degrees to the rotorcraft longitudinal axis with the resultant load passing through the axle. When a lock, steering device, or shimmy damper is provided, the rear wheel shall be assumed to be in the trailing position with the side load acting at the ground contact point.

(h) *Taxying condition.* The rotorcraft and its landing gear shall be designed for loads which occur when the rotorcraft is taxied over the roughest ground which it is reasonable to expect in normal operation.

§ 7.230 [Amendment]

9. By amending § 7.320 by adding before the parenthetical expression a new sentence to read as follows: "The elements of the flight control system shall be designed or shall be distinctively marked to minimize the possibility of incorrect assembly which could result in the malfunctioning of the control system."

§ 7.324 [Amendment]

10. By amending § 7.324 by deleting the phrase "for the control system" and inserting in lieu thereof the phrase "in § 7.225".

11. By adding a new § 7.328 to read as follows:

§ 7.328 Power-actuated control systems.

The design of the control system shall be such that the rotorcraft can continue to be flown and landed safely in the event of any single failure in the power actuating system.

§ 7.332 [Amendment]

12. By amending § 7.332 (a) by adding at the end thereof a new sentence to read as follows: "The attitude in which the landing gear unit is tested shall be such as to simulate the landing condition which is critical from the standpoint of energy to be absorbed by the particular unit."

§ 7.334 [Amendment]

13. By amending § 7.334 (c) by deleting from the last sentence the words "In any case, the emergency system" and inserting in lieu thereof the words "When an emergency system is installed, it".

§ 7.357 [Amendment]

14. By amending § 7.357 (c) by deleting the last two sentences and inserting in lieu thereof a new sentence to read as follows: "If the configuration of the rotorcraft is such that there is a reasonable probability of it coming to rest on the side of the fuselage after a crash landing, means also shall be provided for the satisfactory evacuation of the crew and passengers in such cases."

§ 7.483 [Amendment]

15. By amending § 7.483 (a) by deleting ", or" between the words "pressure" and "which" and inserting in lieu thereof the word "and" and by deleting the comma after the word "engine."

16. By amending § 7.612 (a) by adding a title to subparagraph (3), by redesignating subparagraphs (4) and (5) as subparagraphs (5) and (6), respectively, and by adding a new subparagraph (4) to read as follows:

§ 7.612 Flight and navigational instruments.

(a) *Air-speed indicating systems.* * * *

(3) *Category A and Category B; multiengine rotorcraft.* * * *

(4) *Category B; single-engine rotorcraft.* Calibration of the air-speed indicator shall be made in flight at all forward speeds of 10 mph or over. The air-speed error of the installation, including the air-speed indicator instrument calibration error, shall not exceed 3 percent or 5 mph, whichever is the greater, at any forward speed above 80 percent of the climb-out speed.

17. By amending § 7.625 (d) to read as follows:

§ 7.625 Electrical equipment and installation. * * *

(d) Storage batteries shall be of such design and so installed that:

(1) Safe cell temperatures and pressures are maintained during any probable charging or discharging condition. No uncontrolled increase in cell temperature shall result when the storage battery is recharged (after previous complete discharge) at maximum regulated voltage, during a flight of maximum duration, under the most adverse cooling condition likely to occur in service. Tests to demonstrate compliance with this regulation shall not be required if satisfactory operating experience with similar batteries and installations has shown that maintaining safe cell temperatures and pressures presents no problem.

(2) Explosive or toxic gases emitted by the storage battery in normal operation, or as the result of any probable malfunction in the charging system or the battery installation, shall not accumulate in hazardous quantities within the aircraft.

(3) Corrosive fluids or gases which may be emitted or spilled from the storage battery shall not damage surrounding aircraft structure or adjacent essential equipment.

§ 7.644 [Amendment]

18. By amending § 7.644 (d) by deleting the second sentence.

Proposed Rules—Part 13

There are contained herein proposed changes stemming from the 1958 Annual Airworthiness Review.

Representations were made in support of certain changes to Part 13 at the recent Annual Airworthiness Meeting. In the main, the proposed substantive changes relate to the design, construction, and testing of turbine engines as well as clarifications of intent. Several substantive changes are proposed relative to the requirements applicable to the design and functioning of reciprocating engines.

The proposed amendments to Part 13 contained herein involve the following issues:

Several substanative changes to § 13.110 are proposed herein as a result of extensive service experience with reciprocating engines. The first change involves an amendment to require that the induction system be self-draining under all static ground attitudes to preclude the possibility of hydraulicking and subsequent malfunctioning of the engine. The second change involves an amendment which would establish fail safe criteria for the automatic engine control systems. The third change involves an amendment to require that maximum continuous power be obtainable within 5 seconds after changing from one supercharger speed to another without reduction in the engine speed. There is also a proposal to amend § 13.112 which would require venting of the crankcase to the atmosphere to prevent pressurization of the crankcase and subsequent oil leaks which present fire hazards.

The present regulations do not contain requirements for ignition systems applicable to turbine engines. In view of the relatively high degree of reliability obtained with reciprocating engines employing dual ignition systems, similar requirements are proposed herein for application to turbine engines. However, consideration has been given to the fact that continuous operation of the ignition system on turbine engines is not required so that a system which is not completely dual would nevertheless be capable of performing its intended function with a high degree of reliability. The proposed requirement for a dual system is intended to apply only insofar as the secondary electrical circuit is concerned.

A substantive change is proposed by adding a new paragraph to § 13.210 relative to compressor bleed de-icing. The proposal is intended to require means to indicate functioning of the compressor air bleed system for protection of the engine during icing conditions.

A substantive change is being proposed with respect to compressor and turbine rotors. The present regulations provide for containment of rotor blades and re-

quire turbine rotors be designed and constructed to provide sufficient strength to withstand damage inducing factors associated with engine operation. However, the latter provision is being made applicable to compressor rotors also.

Recent incidents of turbine wheel failures on currently operated transport category airplanes indicate the need for additional design considerations in this area. One of these incidents is attributed to failure of the lubrication system and another to a failure of the air cooling system. The change proposed involves an amendment to § 13.216 which would establish fail safe criteria to insure the structural integrity of the rotor, or in the alternative, would require means to permit the installation of a warning device if the failure is of such a nature as to provide the flight crew with sufficient time to take effective measures to preclude catastrophic failure of the rotor.

A substantive change is proposed by adding a new § 13.218, Engine systems, which would establish a requirement for fail safe criteria to insure against unsafe conditions in the event of a single probable failure or malfunction of any single element in the engine. Broad and objective safety criteria are set forth for reverse thrust systems. It is proposed to retain the general provisions for the design and construction of engine control devices, systems, and instrumentation applicable to turbine rotors now contained in § 13.216 (b) by including such provisions in the new § 13.218.

A proposal is also included herein setting forth test criteria in new § 13.259 which are intended to insure that the engine actuated propeller controls function satisfactorily without detrimental effects on either the engine or propeller.

In addition to the aforementioned substantive changes, it is proposed to add a new § 13.260 to establish standards for determining the airworthiness of thrust reversers. With the advent of inflight thrust reversers it appears appropriate to set forth some guide lines to insure the basic airworthiness of such devices. However, inflight reversers have not been tested fully for civil use and some question arises as to the type of testing necessary. The proposed changes set forth a detailed cycling test for reversing systems intended for ground use only. For inflight reversers it is proposed to apply the basic requirements proposed for ground thrust reversers together with such additional tests as the Administrator considers necessary to insure the airworthiness of such systems.

In addition to the substantive changes being proposed there is a note of a clarifying nature added to § 13.254 (a), which concerns the endurance test schedule engines with augmented ratings. Section 13.254 (a) implies operation at the take-off rating for the full 5-minute period where an increase in engine operating severity is involved. Recognizing that the actual service application of augmented take-off might not be used for this duration, it is proposed to revise this section to permit operation of the engine at the augmented rating for some period less than 5 minutes to be consistent with the time desired for certification, but in no case shall this period be less than 2½ minutes and a total time of 5 minutes must be accumulated for each of the cycle periods specified. In any event, the total time for operation at the augmented rating would remain the same as that currently prescribed for the required test period.

There are several proposals which were discussed at the Annual Airworthiness Meeting which could not be resolved at this time.

The first proposal involves an amendment of § 13.111 to permit acceptance of light weight engines of 65 horsepower or less which do not comply with the dual ignition system requirements of § 13.111, and which are intended for use only in one-man helicopters. The dual ignition system requirements now contained in § 13.111 were formulated to insure a high degree of reliability for engines requiring continuous spark for combustion purposes. It appears that the subject proposal would represent a departure from an established proven principle. However, in considering the present state of the art, the question is raised as to whether or not a relaxation of the regulations at this time for limited application would be in the public interest and also whether or not public safety would be served by such action. In this regard, the Bureau is of the view that a further study of this problem is necessary before the issue can be resolved.

The second proposal involves the adoption of a new set of standards for testing and rating turbine engines for multiengine helicopter installations. This subject was discussed at a meeting separate from but during the Annual Airworthiness Meeting and a proposal was submitted to the Bureau for inclusion herein. There is some question whether or not ample opportunity was afforded all interested parties to participate in the discussion and whether or not consideration has been given to the implications which the proposal might have on other parts of the regulations, particularly on performance. In this regard, it appears that adoption of a set of standards applicable to the engine only would be of questionable significance at this time. Rather, the Bureau is of the view that the aforementioned questions raised should be subject to further study and discussion before changes to the regulations are proposed.

The third issue involves submittal of approved instruction manuals. The present regulations do not specify the time at which approved manuals containing instructions for the installation, operation, servicing, maintenance, repair, and overhaul of the engines are to be submitted. The Bureau is of the view that changes to other parts of the regulations to which this issue is applicable are necessary and warrant further consideration. Until such time as the matter is resolved, it appears that the Administrator has taken a reasonable approach to this problem insofar as Part 13 is concerned by considering manuals to be generally in a tentative form at the time of engine certification and associating submittal of approved manuals with a date no later than that at which the airplane in which the engine is to be installed is certificated.

In view of the foregoing, notice is hereby given that it is proposed that Part 13 of the Civil Air Regulations be amended:

1. By amending § 13.110 by adding new paragraphs (d), (e), and (f) to read as follows:

§ 13.110 Fuel and induction system.

* * *

(d) All passages in the induction system which conduct a mixture of fuel and air shall be self-draining in all attitudes which the applicant establishes as those the engine can have when the aircraft in which it is installed is in the static ground attitude.

(e) If installed or intended for use, the automatic engine control shall operate satisfactorily up to and including the maximum altitude specified in the applicant's engine specification. Variations in operating fluid pressure normally encountered in service shall not cause malfunction of the engine. The maximum and minimum fluid operating pressures shall be specified. No single failure or malfunction of the control system shall result in a hazardous condition. When water injection is approved for take-off power, the control shall be designed to minimize the possibility of damage to the engine in the event of unwanted cessation of the water flow.

(f) When multispeed supercharger drives are used, the design and construction of the engine shall be such that maximum continuous engine power can be obtained within 5 seconds after changing from one supercharger speed combination to another at maximum continuous engine speed.

2. By amending § 13.112 by adding a new paragraph (d) to read as follows:

§ 13.112 Lubrication system. * * *

(d) The engine shall be designed and constructed in such a manner that the crankcase is vented freely to the atmosphere to preclude excessive pressure within the crankcase.

3. By amending § 13.210 by adding a new paragraph (e) to read as follows:

§ 13.210 Fuel and induction system.

* * *

(e) If air is bled from the compressor for protection of the engine in icing conditions, provisions shall be made for positive indication that air is being directed to the engine passages.

§ 13.211 [Amendment]

4. By amending § 13.211 by adding at the end thereof a new sentence to read as follows: "All engines shall be equipped with either a dual ignition system having at least two igniters and two separate secondary electrical circuits, or with an ignition system which will function with equal reliability."

5. By amending § 13.216 to read as follows:

§ 13.216 Rotors.

To minimize the probability of failure of compressor and turbine rotors, the

provisions of paragraphs (a) and (b) of this section shall be complied with.

(a) Compressor and turbine rotors shall be demonstrated to provide sufficient strength to withstand damage inducing factors such as those which might result from abnormal speeds, temperatures, or vibrations.

(b) The design and functioning of the engine shall be such that the probability of structural failure of the turbine rotor is extremely remote in the event of failure or malfunction of any one component or system of the engine during normal or emergency operations (see § 13.218 (b)). Failure of structural elements of the engine need not be considered if the probability of such failure is considered to be extremely remote. In the alternative for each failure considered, it shall be acceptable to show compliance with this criterion by incorporating provisions which would permit the installation of a warning system to indicate failure of the particular component or system under consideration, provided that the failure is of such a nature as to permit the flight crew ample time in which to effect corrective action to preclude failure of the turbine rotor.

6. By adding a new § 13.217 to read as follows:

§ 13.217 Acceleration.

The design and construction of the engine shall be such as to enable acceleration, under static conditions, from flight idle power or thrust to take-off power or thrust in not over 5 seconds.

7. By adding a new § 13.218 to read as follows:

§ 13.218 Engine systems.

The design and functioning of the engine control devices, systems, and instrumentation shall be such as to give reasonable assurance that engine operating design limitations cannot be exceeded.

(a) A reliability analysis shall be made of the engine control, fuel, lubrication, electrical, and engine actuated propeller control systems to demonstrate that the engine will be adaptable to a powerplant installation in an airplane so that the probability of a catastrophic failure is extremely remote in the event of any single failure in the engine.

(b) If the engine incorporates a thrust reverser intended for ground operation only, the reverser shall be adaptable for use with a reversing system in an airplane so that no single failure or malfunction of the system during normal or emergency operation will result in unwanted reverse thrust.

(c) If the engine incorporates a thrust reverser intended for inflight operations, the thrust reverser shall be adaptable for use with a reversing system in an airplane so that no unsafe condition will result during normal operation of the system or from any failure or reasonably likely combination of failures of the reversing system, under all anticipated conditions of operation of the airplane.

(d) In showing compliance with paragraphs (a) and (b), of this section, failure of structural elements of the engine need not be considered if the probability of such failure is considered to be extremely remote.

§ 13.254 [Amendment]

8. By amending § 13.254 (a) by adding a note at the end thereof to read as follows:

NOTE: It shall be acceptable to accumulate the total specified period of running at the augmented rating for each cycle by operation at 2½-minute intervals provided the approved time limitation for the augmented rating does not exceed 2½ minutes.

9. By adding a new § 13.259 to read as follows:

§ 13.259 Engine-propeller systems tests.

The following tests shall be conducted, where applicable, with a propeller installed which will be representative of the type used on a typical aircraft installation. They may be included in the endurance run or otherwise suitably demonstrated in a manner acceptable to the Administrator.

(a) Feathering, 25 cycles.

(b) Negative torque and/or thrust, 25 cycles at maximum continuous power.

(c) Automatic decoupler, 25 cycles at maximum continuous power (if repeated decoupling and recoupling in service is the intended function of the device).

(d) Reverse thrust, 175 cycles from the flight-idle position to full reverse and 25 cycles at maximum continuous power from full forward to full reverse thrust. At the end of each cycle the propeller shall be operated in reverse pitch for a period of 30 seconds at the maximum rotational speed and power declared by the applicant.

10. By adding a new § 13.260 to read as follows:

§ 13.260 Thrust reversers.

(See also § 13.218.) If the engine incorporates a reverser, endurance, calibration, operation, and vibration tests prescribed in this part shall be run with the reverser installed. In complying with the provisions of this section, the power control lever shall be moved from one extreme position to the other in not more than one second except, where different regimes of control operations are incorporated necessitating scheduling of the power control lever motion in going from one extreme position to the other, a longer period of time shall be acceptable but in no case shall this time exceed 2 seconds. In addition, the tests prescribed in paragraphs (a) and (b) of this section shall be applicable. These tests may be scheduled as part of the endurance run.

(a) If the reverser is intended for use only as a braking means on the ground, 175 reversals shall be made from flight-idle forward thrust to maximum reverse thrust and 25 reversals shall be made from maximum forward to maximum reverse thrust. At the end of each cycle the reverser shall be operated at full reverse thrust for a period of one minute.

(b) If the reverser is intended for inflight application, the conditions of paragraph (a) of this section shall apply together with such tests as found necessary by the Administrator to insure the airworthiness of the device.

Proposed Special Civil Air Regulation No. SR–422B

Special Civil Air Regulation No. SR–422 was adopted by the Board on July 23, 1957. It includes a set of performance requirements applicable to all turbine-powered transport category airplanes for which type certificates are issued after August 27, 1957. On July 2, 1958, the Board adopted Special Civil Air Regulation No. SR–422A containing a revision of the performance requirements contained in SR–422. Special Civil Air Regulation No. SR–422A is applicable to all turbine-powered transport airplanes for which type certificates are issued after September 30, 1958. Turbine-powered airplanes subject to SR–422 may, at the option of the applicant, be certificated under the provisions of SR–422A.

In the preamble of SR–422A, the Board indicated that changes to the provisions contained therein would be made if further studies and experiences indicate such changes to be necessary. At the Annual Airworthiness Meeting held in September 1958, representations were made in support of certain changes to SR–422A. In general, the issues raised during the meeting were of a substantive nature, involving the level of performance, as well as issues involving clarification of intent.

All of the issues raised at the aforementioned meeting cannot be resolved at this time because of the lack of substantiating data. The unresolved issues are considered to require further study and/or experience before further action, consistent with the Board's expressed intent, can be taken.

The differences between SR–422A and the proposed new SR–422B involve the following issues:

Strong representations were made by the airframe manufacturers for new provisions relating to the rotation speed. The manufacturers contended that some of the provisions applicable to the rotation speed are inappropriate and are unduly penalizing for airplanes with superior performance and superior flying qualities.

The Bureau is of the view that refinement of the provisions presently in SR–422A applicable to rotation speed can be effected consistent with the general concept upon which the existing provisions were framed, without any sacrifice in safety.

Section 4T.114 (c) (2) of currently effective SR–422A requires that the rotation speed be not less than 95 percent of the minimum take-off safety speed involving the stall speed and the minimum control speed. It appears that, in further refinement of the requirements, the stall speed as defined in the currently effective regulations does not appear essential as a criterion for the establishment of the minimum rotation speed. It is, therefore, being proposed in SR–422B to relate the rotation speed to the minimum control speed rather than to the minimum take-off speed.

There is also proposed in § 4T.114 (d) of the new SR–422B a generalized definition for the minimum unstick speeds which are now applicable to the one-

engine-inoperative case as well as to the all-engines-operating case. The proposed provisions would permit the determination of the minimum unstick speeds by free-air data if such data can be correlated with ground test data. These two speeds are related by appropriate factors to the rotation speed to insure that adequate speed margins will exist for both the one-engine-inoperative and the all-engines-operating conditions. These factors are equally applicable to all airplanes irrespective of whether or not the airplanes' attitude is limited by landing gear-fuselage geometry. For the geometry-limited airplane, the minimum unstick speed with all-engines operating can be determined in free air. The all-engine factor of 110 percent is intended to insure that geometry-limited airplanes will have adequate speed margins in the event the airplane becomes airborne prematurely at relatively low speeds.

Since the rotation speed is a fundamental parameter for take-off, it is also being proposed to indicate clearly that the same rotation speed is applicable to the one-engine-inoperative and the all-engines-operating cases for a given weight and for any given set of atmospheric conditions. Certain additional safeguards are proposed to insure that no marked adverse effect on performance or unsafe flight characteristics will be encountered during the take-off in the event of early rotation or over-rotation of the airplane.

There is also included herein an alternative proposal regarding changes to the provisions on rotation speed which was submitted by the Boeing Airplane Company. The Boeing proposal substitutes the zero rate-of-climb speed for the minimum unstick speed criterion, deletes the stall speed criterion, and includes the safeguard provision relating to early rotation. Boeing's proposal is included under a note in the main body of the proposed new provisions. Comments are solicited on this proposal as well as on the Bureau's proposal.

The Boeing Airplane Company has also submitted a proposal to reduce to 110 percent the all-engine take-off factor of 115 percent prescribed in § 4T.117. They contend that the proposed factor is more consistent with past operating experience and indicate that the one-engine-inoperative field lengths determined in accordance with Part 4b for the Boeing 377 airplane could be as low as 103 percent of the actual all-engine take-off distance. They also cite the fact that the one-engine-inoperative distance for the 707 airplane, as demonstrated in compliance with SR–422, varies from 109 to 111 percent of the all-engine distance. They claim that recently gained experience indicates these margins to be adequate.

On the other hand, representations have been made that the all-engine factor of 115 percent might be too low and should be increased. Certain data tend to substantiate this view.

The Bureau does not consider the information available so far to be sufficiently conclusive, one way or the other, to justify a change at this time. Because this particular provision of SR–422A is of vital significance to both safety and economics of operation, it is essential that any new provisions in this respect be based on sound technical conclusions. It is anticipated that this matter will be given further study in the future pointing to an early resolution.

A substantive change is being proposed in new SR–422B in the trim conditions specified for the determination of stalling speeds to make these conditions more realistically applicable to airplanes equipped with adjustable stabilizers. The currently effective provisions of § 4T.112 (b) (1) require trimming the airplane at a speed of 1.4 V_s, and the proposed change would permit selection of the trim speed by the applicant within the speed range of 1.2 V_s and 1.4 V_s.

Another substantive difference proposed in the new regulation is in connection with the take-off obstacle clearance requirements. The currently effective provisions of SR–422A require, based on the net flight path, a vertical clearance of 35 feet or a constant lateral clearance of 200 feet within the airport boundaries and of 300 feet outside the airport boundaries. Recently, the Airworthiness Committee of the International Civil Aviation Organization (ICAO) tentatively agreed upon an expanding lateral clearance specification beyond the airport boundaries of 300 feet plus 0.125D feet with a maximum clearance of 5,000 feet, where D is the distance from the airport boundary along the intended take-off path. The proponents of this requirement contend that the tolerance of currently used navigational instruments clearly indicates the need for an expanding lateral obstacle clearance. On the other hand, the opponents argue that the vast amount of experience of past operations refutes the need for any such requirement. The Bureau is of the belief that the regulations on lateral clearance should provide appropriate margins for the tolerances of error of current navigational instruments to insure a reasonable level of safety under instrument flight conditions. Although the United States has had a vast amount of experience without any accident known to be caused by inadequate lateral obstacle clearance, there is some question as to the precentage of past operations which have been critical in this regard. From preliminary information available to the Bureau, it appears that the tentative ICAO specification on expanding clearance might be critical at only a relatively few airports in the United States, however, the effect of such an expanding lateral obstacle clearance would have severe economic implications on these airports. Without considering the economic implications, there appears to be an apparent need, from a safety viewpoint, for an expanding lateral obstacle clearance for the take-off. There is some question, however, whether the required minimum safety cannot be attained by operational safeguards other than by the imposition of an expanding lateral obstacle clearance. Not having any clearly defined affirmative answer to this question, the Bureau proposes to require an expanding lateral obstacle clearance for the take-off; the final disposition of this proposal will be governed by the answer to the aforementioned question resulting from further study and from the comments received in response to this draft release.

In SR–422A, there was introduced the concept of unbalanced field lengths permitting the use of clearways. It appears that United States operators also will have the occasion to utilize stopways to some extent. It has been represented that the use of stopways could afford operators some economic benefit without resulting in any adverse effect on safety. Accordingly, it is proposed to permit stopways to be considered in the required accelerate-stop distance and take-off distance, excluding the take-off run distance. A stopway is being defined as an area beyond the designated runway and considered by the airport authorities to be adequate for use in an aborted take-off, such area being capable of supporting the airplane when so used without inducing structural damage to the airplane.

A provision is being proposed that differs from § 4T.116 (i) (4) of SR–422A which requires segmental take-off paths to be checked by continuous take-off demonstrations. The language of this provision implies that the entire segmented take-off path up to 1,500 feet must be so checked. It is generally agreed that a segmental flight path need not be checked by a continuous demonstrated take-off beyond the point where the airplane is free of ground effect and the airplanes' speed is stabilized, it being recognized that ground effect is negligible at a height equal to approximately the wing span. An appropriate proposal, therefore, is included.

The currently effective provisions of § 4T.117 (a) of SR–422A have been interpreted to require derivation of the net flight path only by the process of reducing the slope of the actual flight path at each point by the specified margins. If the actual flight path included a zero slope acceleration segment, this resulted in a negative slope for the net flight path in this region. A negative slope of the net flight path in some cases might not be realistic operationally. Irrespective of the airplanes' performance, the airplane usually will be flown to a predetermined altitude before the acceleration is begun, and it is, therefore, proposed, in effect, to permit accounting for the specified performance margin in the acceleration segment either by reducing the slope of the actual flight path or by an extension of the acceleration segment.

In the derivation of the net flight path, SR–422A makes applicable a margin equal to a gradient of one percent to both two- and four-engine airplanes. The take-off climb gradients prescribed in SR–422A are different for two- and four-engine airplanes. Since these were based on performance levels of currently operated airplanes, and verified by a statistical analysis, it appears logical that this relative difference be applied also to the proposed margins. Statistical analysis indicates that the ratio of the margin of two- to four-engine airplanes

is approximately equal to 0.8. It is, therefore, being proposed to reduce the margin applied to the net flight path for twin-engine airplanes from a gradient of climb of 1.0 percent to 0.8 percent.

The provisions of § 4T.120 (a) of SR–422A prescribe the configuration of the airplane to be that existing at the time the airplane first becomes airborne. It appears that on current design of turbine-powered airplanes a more critical configuration involving the landing gear will occur at some point later than currently prescribed. For this reason, there is included a proposal to require taking account of the most critical configuration occurring during gear retraction.

A section is being proposed for the two-engine-inoperative en route limitations which differs from § 40T.83 of SR–422A. The current provisions of SR–422A require consideration of a so-called letdown procedure as opposed to the drift-down procedure specified by the one-engine-inoperative en route limitations. For long overwater flights, the so-called letdown procedure is quite similar to drift-down. In view of the foregoing, and the fact that there are very few, if any, routes over terrain where the airplane is more than 90 minutes from a suitable airport, there appears little reason to incorporate the letdown procedure. Accordingly, it is proposed to permit consideration of drift-down for general application to the two-engine-inoperative en route case.

In addition to these substantive differences, there are included several proposed sections which differ from SR–422A due to clarification changes. For purposes of being more inclusive, it is being proposed to include in the new special regulation a definition of minimum control speed substantially in accordance with the definition currently contained in § 4b.112 of Part 4b of the Civil Air Regulations. There is also included a proposed new section which clarifies the take-off safety speeds by setting forth definitions for the minimum take-off safety speed and the take-off safety speed which must be attained prior to reaching the 35-foot height.

There is a clarification of intent of § 4T.120 (c) (3) proposed in the new special regulation which would permit the air speed used in showing compliance with the final take-off climb gradient requirement to be no greater than the best rate-of-climb speed. This change affects turbo-propeller installations in particular where the best rate-of-climb speed might be lower than the currently prescribed minimum speed of 1.25V.

A proposed new § 4T.120 (d) is made which would clarify the prescribed approach configuration as that which corresponds with the configuration employed in the normal all-engines-operating approach procedure.

There is also included a proposed new § 40T.81 (c) which indicates more clearly the relationship between the various prescribed minimum distances and the runway length available.

The language of the currently effective provisions of § 40T.83 (b) in SR–422A requires that all airplanes comply with certain two-engine-inoperative en route performance requirements if the airplane is intended to fly along a route more than 90 minutes away from a suitable airport. This requirement, in effect, does not permit two-engine airplanes to fly on routes where they might be more than 90 minutes from a suitable airport. It has come to the Bureau's attention that this intent is not clearly expressed and, for this reason, a proposed new section is included herein.

In addition to the aforementioned changes, there are also a few editorial changes.

The proposed new SR–422B is to be mandatorily applicable to all turbine-powered airplanes for which type certificates are issued after July 1, 1959. However, sooner applicability would be permitted if so indicated by the applicant. If this option is exercised, it is intended that compliance be shown with all of the provisions of the revised regulations and it is not intended to permit a showing of compliance with portions of the revised regulations and portions of SR–422 or SR–422A.

In view of the foregoing, notice is hereby given that it is proposed to recommend the adoption of a new Special Civil Air Regulation No. SR–422B, the provisions of which would be identical in most part to the current provisions of SR–422A. To avoid undue repetition, to relieve an administrative burden, and to point out more clearly the differences between the two special regulations, only those provisions of proposed SR–422B which differ from the provisions of present SR–422A are listed below as follows:

1. The introductory paragraph of Special Civil Air Regulations No. SR–422B will read as follows:

Contrary provisions of the Civil Air Regulations notwithstanding, all turbine-powered transport category airplanes for which a type certificate is issued after August 27, 1957, shall comply with Special Civil Air Regulation No. SR–422 and those airplanes for which a type certificate is issued after September 30, 1958, shall comply with Special Civil Air Regulation No. SR–422A or, alternatively, with the following provisions, except that those airplanes for which a type certificate is issued after July 1, 1959, shall comply with the following provisions:

2. In item 2 insert the reference "4b.133," after the reference "4b.125".

3. In § 4T.112 (b) (1) delete the expression "of 1.4 V_s" and insert in lieu thereof the following: "chosen by the applicant, of not less than 1.2 V_s nor greater than 1.4 V_s".

4. In § 4T.112 change the title and add new paragraphs (c), (d) and (e) to read as follows:

4T.112 *Stalling and minimum control speeds.* * * *

(c) The minimum control speed V_{MC}, in terms of calibrated air speed, shall be the speed at which, when the critical engine is suddenly made inoperative at that speed, it is possible to recover control of the airplane with the engine still inoperative and to maintain it in straight flight at that speed, either with zero yaw or, at the option of the applicant, with an angle of bank not in excess of 5 degrees, and with:

(1) The remaining engine(s) operating at the maximum available take-off power and/or thrust;

(2) Maximum sea level take-off weight or such lesser weight as may be necessary to demonstrate V_{MC};

(3) The airplane in the take-off configuration existing at the point of the flight path under consideration, except that the landing gear is retracted;

(4) The airplane airborne and the ground effect negligible;

(5) The center of gravity in the most unfavorable position.

(d) In demonstrating the minimum speed specified in paragraph (c) of this section, the rudder force required to maintain control shall not exceed 180 pounds, and it shall not be necessary to reduce the power and/or thrust of the operative engine(s).

(e) During recovery from the maneuver specified in paragraph (c) of this section, the airplane shall not assume any dangerous attitude, nor shall it require exceptional skill, strength, or alertness on the part of the pilot to prevent a change of heading in excess of 20 degrees before recovery is complete.

5. In the introductory paragraph of § 4T.113 (b) delete from the last sentence the words "shall be corrected" and insert in lieu thereof the words "shall include operational correction factors".

6. Change the introductory paragraph of § 4T.114 (b) to read as follows:

4T.114 *Take-off speeds.* * * *

(b) The minimum take-off safety speed $V_{2\,min.}$, in terms of calibrated air speed, shall not be less than:

7. In § 4T.114 (b) delete subparagraph (4).

8. In § 4T.114 delete paragraph (c) and add new paragraphs (c) through (h) to read as follows:

4T.114 *Take-off speeds.* * * *

(c) The take-off safety speed V_2, in terms of calibrated air speed, shall be selected by the applicant so as to permit the gradient of climb required in § 4T.120 (a) and (b), but it shall not be less than:

(1) The speed $V_{2\,min.}$;

(2) The rotation speed V_R plus the increment in speed attained prior to reaching a height of 35 feet above the take-off surface in compliance with § 4T.116 (e).

(d) The minimum unstick speed V_{MU}, in terms of calibrated air speed, shall be the minimum speed above which the airplane can be made to lift off the ground and to continue the take-off without displaying any hazardous characteristics. It shall be acceptable to establish the V_{MU} speed in free air provided that the free-air data are verified by appropriate checks during take-off distance demonstrations.

(e) The rotation speed V_R, in terms of calibrated air speed, shall be selected by the applicant, but it shall not be less than:

(1) The speed V_1,

(2) A speed equal to 105 percent of V_{MC};

(3) A speed which permits the attainment of the speed V_2 prior to reaching a height of 35 feet above the take-off surface as determined in accordance with § 4T.116 (e).

(4) A speed which will result in a lift-off speed not less than 110 percent of V_{MU} with all engines operating nor less than 105 percent of V_{MU} with one engine inoperative, except that, for airplanes limited by landing gear-fuselage geometry, V_{MU} for the all-engines-operating case is the speed determined in free air and corrected for ground effect. (See NOTE.)

(f) A single value of the V_R speed shall be established for a given weight and set of atmospheric conditions, irrespective of the power operating condition.

(g) It shall be shown that the take-off distance determined with one engine inoperative at rotation speeds 5 knots less than

the speeds determined in accordance with paragraph (e) of this section do not exceed the take-off distances established in accordance with § 4T.117. (See NOTE.)

(h) It shall be demonstrated that variations from the established techniques used for take-off which are apt to occur during service (e.g., over-rotation of the airplane), will not result in any unsafe flight characteristics nor in marked increases in the established take-off distances.

NOTE: The Boeing Airplane Company has submitted an alternative proposal which includes proposed § 4T.114 (g) but in lieu of § 4T.114 (d) (e) (4), (f), and (h) includes the following criteria relevant to rotation speed: "The airplane shall be rotated at a speed which will result in the airplane lifting off at a speed not less than 10 percent above the free air zero rate-of-climb speed or a speed where hazardous conditions exist. These speeds are to be determined with one engine inoperative."

9. Change § 4T.116 (i) (4) to read as follows:

4T.116 *Take-off path.* • • •

(i) • • •

(4) Segmental take-off path data shall be checked by continuous demonstrated take-off up to the point where the airplane's performance is not affected by the ground, and the airplane's speed is stabilized, to insure that the segmented path is conservative relative to the continuous path.

10. In the introductory statement of § 4b.117 (b) insert between the words "a" and "clearway" the following words: "stopway and/or a".

11. Change § 4T.117a (b) to read as follows:

4T.117a *Take-off flight path.* • • •

(b) The net take-off flight path data shall be determined in such a manner that they represent the airplane's actual take-off flight paths, determined in accordance with § 4T.116 and with paragraph (a) of this section, reduced at each point by a gradient of climb equal to 0.8 percent for two-engine airplanes and equal to 1.0 percent for four-engine airplanes, except that the slope of the net flight path need not be negative beyond the point which corresponds with that point on the take-off flight path specified in § 4T.116 where the airplane first reaches a height of 400 feet above the take-off surface, provided that the applicable prescribed reduction in climb gradient is applied as a reduction in the airplane's acceleration.

12. In the introductory statement of § 4T.120 (a) delete the words "In the take-off configuration existing at the point of the flight path where the airplane first becomes airborne" and insert in lieu thereof the following words: "In the critical take-off configuration existing along the flight path between the points where the airplane first became airborne and where the landing gear is fully retracted".

13. At the end of § 4T.120 (c) (3) add the following clause: ", except that it need not exceed the best rate-of-climb speed."

14. In the introductory statement of § 4T.120 (d) delete the words "such that the corresponding V_S for" and insert in lieu thereof the words "corresponding with the normal all-engines-operating procedures such that V_S related to".

15. In § 4T.122 (d) delete the words "shall be corrected" and insert in lieu thereof the words "data shall include operational correction factors".

16. § 4T.123 (a) (3) insert between the words "include" and "a clearway" the words "a stopway and/or".

17. Change § 40T.81 (c) to read as follows:

40T.81 *Airplane's certificate limitations.* • • •

(c) No airplane shall be taken off at a weight which exceeds the weight at which, in accordance with the minimum distance for take-off scheduled in the Airplane Flight Manual, compliance with subparagraphs (1) through (3) of this paragraph is shown. These distances shall correspond with the elevation of the airport, the runway to be used, the effective runway gradient, and the ambient temperature and wind component existing at the time of take-off. (See §§ 4T.123 (a) (3) and 4T.743 (a).)

(1) The take-off run shall not exceed the length of runway.

(2) The accelerate-stop distance shall not exceed the length of runway plus the length of the stopway, where present.

(3) The take-off distance shall not exceed the length of runway, plus the length of the stopway, where present, and/or the length of the clearway, where present, except that the take-off distance shall not include a clearway distance greater than one-half of the take-off run.

18. In § 40T.82 delete the words "300 feet horizontally after passing beyond the boundaries" at the end of the first sentence and insert in lieu thereof the words "300 feet plus 0.125D laterally, where D is the horizontal distance the airplane has travelled from the airport boundary, except that obstacles at a distance greater than 5,000 feet on either side of the intended track need not be cleared."

19. In § 40T.82 delete from the second sentence the words "flight path" and "take-off path data" and insert the words "net take-off flight path" and "net take-off flight path data", respectively; and delete from the third sentence the words "take-off path" and insert in lieu thereof the words "net take-off flight path".

20. In § 40T.83 add a new introductory paragraph to read as follows:

40T.83 *En route limitations.* No airplane shall be flown along an intended track if any place along the intended track is more than 90 minutes away from an airport at which a landing can be made in accordance with § 40T.84 (b), assuming all engines to be operating at cruising power, unless compliance is shown with paragraph (b) of this section. In addition, compliance shall be shown with paragraph (a) of this section.

21. In § 40T.83 (a) (1) and (2) delete the expression "5 miles" and insert in lieu thereof in each instance the expression "5 statute miles (4.34 nautical miles)".

22. In § 40T.83 (b) delete the introductory statement and subparagraphs (1) and (2), redesignate subdivisions (i) through (iii) as subparagraphs (1), (3), and (4), respectively, and add a new introductory statement and a new subparagraph (2) to read as follows:

40T.83 *En route limitations.* • • •

(b) *Two engines inoperative.* No airplane shall be taken off at a weight in excess of that which, according to the two-engine-inoperative en route net flight path data shown in the Airplane Flight Manual, will permit the airplane to continue flight from the point where two engines are assumed to fail simultaneously to an airport where a landing can be made in accordance with the provisions of § 40T.84 (b), the net flight path clearing vertically at least 2,000 feet all terrain and obstructions along the route within 5 statute miles (4.34 nautical miles) on either side of the intended track. The net flight path considered shall be for the ambient temperatures anticipated along the route. The provisions of subparagraphs (1) through (4) of this paragraph shall apply. (See §§ 4T.123 (b) and 4T.743 (b).)

• • • • •

(2) The net flight path shall have a positive slope at 1,500 feet above the airport where the landing is assumed to be made after failure of two engines.

23. Change § 43T.11 (c) to read as follows:

43T.11 *Transport category airplane weight limitations.* • • •

(c) No airplane shall be taken off at a weight which exceeds the weight at which, in accordance with the minimum distance for take-off scheduled in the Airplane Flight Manual, compliance with subparagraphs (1) through (3) of this paragraph is shown. These distances shall correspond with the elevation of the airport, the runway to be used, the effective runway gradient, and the ambient temperature and wind component existing at the time of take-off. (See §§ 4T.123 (a) (3) and 4T.743 (a).)

(1) The take-off run shall not exceed the length of runway.

(2) The accelerate-stop distance shall not exceed the length of the runway plus the length of the stopway, where present.

(3) The take-off distance shall not exceed the length of the runway, plus the length of the stopway, where present, and/or the length of the clearway, where present, except that the take-off distance shall not include a clearway distance greater than one-half of the take-off run.

24. In item 5 designate the definition of "Clearway" as paragraph (a) and add a new paragraph (b) to read as follows:

(b) *Stopway.* A stopway is a rectangular area beyond the airport runway centrally located about the extended center line of the runway, not less in width than the width of the runway, and designated by the airport authorities for use in an aborted take-off, such area being capable of supporting the airplane when so used without inducing structural damage to the airplane.

[F. R. Doc. 59-27; Filed, Jan. 5, 1959; 8:45 a. m.]

[14 CFR Part 41]

[Draft Release No. 58-24]

CERTIFICATION AND OPERATION RULES FOR SCHEDULED AIR CARRIER OPERATIONS OUTSIDE THE CONTINENTAL LIMITS OF THE UNITED STATES

Notice of Proposed Rule Making

Pursuant to authority delegated by the Civil Aeronautics Board to the Bureau of Safety, notice is hereby given that the Bureau will propose a revision of Part 41 of the Civil Air Regulations as hereinafter set forth.

Interested persons may participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire. Communications should be submitted in duplicate to the Civil Aeronautics Board, attention Bureau of Safety, Washington

25, D. C. In order to insure their consideration before taking further action on the proposed rules, communications must be received by April 1, 1959. Copies of such communications will be available after April 6, 1959, for examination by interested persons at the Docket Section of the Board, Room 5412, Department of Commerce Building, Washington, D. C., or the offices of the Federal Aviation Agency, as appropriate.

A complete revision of Part 41 has been under consideration by the Bureau for some time. Two draft releases have been circulated. The initial release provided for the combination of scheduled air carrier safety regulations into a single part. The Board decided, however, that the domestic operations should be prescribed by Part 40 and the operations outside the continental limits of the United States should continue to be prescribed by Part 41. The Board also determined that a corresponding revision of Part 41 should be accomplished following the promulgation of Part 40.

The Bureau circulated Draft Release 56–17 dated June 12, 1956, proposing a general revision of Part 41. This draft release was designed to restate the present requirements where still valid, clarify others as necessary in the light of experience, and bring the part as a whole into accord with current operating procedures and techniques of the air transport industry. The draft solicited comment prior to September 20, 1956. At the request of industry and government the date for comment was extended and final comment was not received until March 11, 1957. A supplemental release containing the comment received on each section of the proposal was thereafter circulated to persons who had indicated an interest in the proposal. All interested persons were invited to participate in oral discussion with the Bureau on December 4, 5, and 6, 1957. The Bureau made it clear at the meeting that it would re-examine the provisions of the proposal in the light of all comment and recommendations received and that a final notice of proposed rule making would be published in the FEDERAL REGISTER and circulated to the industry for comment. The proposal contained herein is the final notice of rule making and presents the standards which the Bureau believes should be recommended to the Board for adoption.

A number of changes to Draft Release 56–17 have been made in this proposed revision. Several of these reflect regulatory changes brought about by amendments to the Civil Air Regulations which have been adopted since the circulation of Draft Release 56–17.

The flight crew training and qualification requirements contained in this proposal are essentially the same as contained in Part 40. However, many recommendations on training and qualification requirements in general have been received. Accordingly, these requirements are under separate study by the Bureau and the resulting action, if any, will affect Part 40 as well as Part 41 requirements.

The definitions contained in this proposal are identical to those in Part 40 where appropriate; however, it is anticipated that certain changes, as for example the definition of control zones and control areas, will be revised prior to issuing final rules in order to properly reflect the change in definition of these terms in other parts of the Civil Air Regulations. Appropriate changes in Part 40 will be made at the same time.

Section 41.1 *Applicability of this part:* It is believed that the proposed wording is clearer than that contained in Draft Release 56–17. The scope of the applicability is similar to that in presently effective Part 41 and Special Civil Air Regulation No. SR–368B.

Section 41.2 *Compliance with foreign air traffic rules:* This section as proposed in Draft Release 56–17 has been eliminated as U. S. air carriers are required by the government of the country over which they fly to observe the air traffic rules of that country. This requirement is consistent with the provisions of the Chicago Convention of 1946.

Section 41.2 *Applicability of Parts 43 and 60 of this subchapter:* This section has been added and is similar in applicability to the present provisions in Part 40.

Section 41.31 *Width of routes:* This section has been rewritten to permit the Administrator to establish any route width which is operationally feasible and provides adequate safety in each individual case. The obligation to show that the navigational aids and other facilities are adequate rests with the air carrier. Under this proposed rule the Administrator may approve broad route widths as, for example, an extended overwater route where a navigator is a required flight crew member and suitable air traffic control procedures are established. In foreign countries where airway systems comparable to those in the United States have been established, the Administrator may approve route widths identical with those established by the appropriate authority.

Section 41.32 *IFR routes outside of control areas:* The restriction limiting the approval of such routes to the continental limits of the United States has been removed as it was considered unduly restrictive. However, a showing that the traffic density does not constitute a hazard has been required of the operator prior to approval of the route or routes by the Administrator.

Section 41.75 *En route limitations; two engines inoperative:* A change has been made to bring this section into conformity with Amendment 41–17, effective May 17, 1958.

Sections 41.110 to 41.154 *Special airworthiness requirements:* The incorporation of the special airworthiness requirements in §§ 41.110 through 41.154 is made without alteration of the intent of these provisions from the presently effective regulations. This is done to obviate the cross-referencing which is used in presently effective Part 41. Such cross-referencing raises particular problems when the referenced sections are superseded.

Section 41.173 *Emergency equipment for all operations:* The air carriers stated that the requirements for emergency equipment could work a hardship if an item of equipment such as the crash ax required by paragraph (d) should be stolen or found missing at an airport where no replacement was available. Such an incident can be taken care of by inclusion in the air carrier manual of appropriate procedures in accordance with § 41.391 (b). Accordingly, no change has been made in paragraph (b).

Sections 41.202 to 41.205 *Oxygen requirements:* The provisions covering oxygen requirements contained in this draft release include the changes made to present requirements as a result of the action taken in Amendment 41–18, effective September 1, 1958.

Section 41.231 *Radio equipment for operations under VFR over routes navigated by pilotage:* No significant change has been made in this section. Due to the misunderstanding apparent at the meeting, the Bureau would like to point out that it is intended that the requirements of paragraph (a) (3) may be met by any two systems including those used to meet the radio equipment requirements of paragraphs (a) (1) and (2).

Section 41.233 *Radio equipment for extended overwater operations or for operations over uninhabited terrain:* This section has been changed to permit the Administrator to make a determination as to the areas where search and rescue operations are necessary. There is no substantive change in the requirement of this proposed section from the existing requirements of presently effective Part 41.

Section 41.241 *Maintenance and inspection requirements:* In the comment received it was stated that the certificate requirements of paragraph (b) are extremely burdensome for international operations. In view of the present regulations in Part 24 which permit issuance of repairman certificates to foreign nationals, we do not believe that these requirements should impose a hardship as such repairmen who are designated by the air carrier and approved by the Administrator may supervise or perform the maintenance functions of the air carrier.

Section 41.243 *Maintenance and inspection personnel duty time limitations:* This section as proposed in the draft release would not in itself contribute to the safety of operations. The requirements of this section could be very burdensome in international operations at outlying stations with very infrequent daily schedules and when adequate rest between flights is available. Such a rule also could give difficulty in the employment of foreign nationals who are subject to local labor laws. There is no evidence that this section is required in the interest of safety, therefore, it has been eliminated.

Section 41.262 *Flight navigator:* This section has been substantially simplified. It is believed that the criteria used to determine whether the navigation function can be carried out from the pilot station can be established in each particular case by the Administrator.

Section 41.265 *Flight attendant:* A sentence has been added permitting an additional cabin attendant to be required if found necessary by the Administrator.

It is believed that in present-day airplanes with large passenger capacities, including jets, more than one cabin attendant may be required in case of emergency evacuation, explosive or rapid decompression, or other emergency situation.

Section 41.280 *Training requirements:* No significant changes have been made in the training requirements at this time. The Bureau has received recommendations from interested organizations and is presently studying airman training and qualification requirements. These requirements affect operations conducted under all of the air carrier operating parts and may, therefore, be the subject of a separate draft release affecting Part 40, Part 41, and, to some extent, Part 42.

An editorial change has been made for the sake of clarity in the format of the sections respecting training programs for individual airmen. At the December meeting on Draft Release 56–17, complaints were made that the pertinent requirements for individual airmen were contained in several different sections. A change has been made so that, with the exception of the emergency training requirements, the training requirements for each airman are contained in a separate section.

Section 41.302 *Pilot checks:* In order to raise the pilot competence standards, an additional requirement that pilots serving as second in command in flight crews of three or more pilots must have an initial and annual line check has been added as proposed in Draft Release 57–24, "Periodic Proficiency Checks for Pilots Serving as Second in Command of Flight Crews of Three or More Pilots." The requirement for maximum gross weight for take-off on periodic flight checks has been deleted and permissive authority for the use of aircraft simulators for periodic flight checks has been added in accordance with presently effective Parts 40 and 41.

Section 41.303 *Pilot route and airport qualification requirements:* Permissive authority to accomplish initial pilot route and airport qualification by pictorial or other approved means, as authorized by Amendment 41–19, effective September 24, 1958, has been included in this draft release.

Section 41.304 *Maintenance and reestablishment of pilot route and airport qualifications for particular trips:* This section has been changed to require the pilot to make an actual flight entry into each airport within the preceding 12 months. However, such entry is not required if other means, such as approved pictorial presentation, have been utilized. It is believed that, particularly in international operations, more familiarity with each airport is necessary than can be acquired by merely flying between terminals. This also will make the requirements for maintaining qualification and reestablishing qualification more consistent.

Section 41.310 *Aircraft dispatcher qualification for duty:* These requirements have been changed to correspond with the proposals contained in Draft Release 58–20, "Aircraft Dispatcher Qualification Requirements," which would make the requirement for recent flight experience more flexible.

Section 41.320 *Flight time limitations:* The Bureau does not propose any change to the currently effective flight time limitations for flight crew members at this time.

Section 41.340 *Aircraft dispatcher daily duty time limitation:* The provisions of Part 40 have been included in this proposed revision, together with authority to the Administrator to grant an extension of the daily duty time limitations at duty stations outside the continental limits of the United States subject to the conditions contained in the section. The Part 40 duty time limitations have proven satisfactory for domestic operations and basically should serve for Part 41 operations outside the continental limits. However, in certain instances at outlying stations a hardship could be imposed by strict adherence to the Part 40 rules due to such factors as the infrequency of flights, difficulty in obtaining relief personnel, and unusual operating conditions. It is, therefore, considered advisable to permit the Administrator to designate particular duty locations where exceptions can be made.

Section 41.351 *Operational control:* A subparagraph has been added to paragraph (c) containing a prohibition against the careless and reckless operation of aircraft similar to that which is applicable to operations within the continental limits of the United States.

The note with respect to the pilot in command applicable to § 40.351 (c) of Part 40 has also been included as a note applicable to § 41.351 (c).

Section 41.356 *Admission to flight deck:* Draft Release 58–16, "Carriage of Persons Other Than 'Crew Members' and 'Passengers' Aboard All-Cargo Aircraft," has recently been circulated. Action taken with respect to this draft release will be included in revised Part 41 as appropriate.

Section 41.363 *Engine failure or precautionary stoppage:* Paragraph (b) of this section contained among the factors which the pilot must consider before proceeding to an airport of his selection, "(2) The availability of the inoperative engine for use." This factor has been deleted as it is not felt that this should be a consideration due to the inherent danger from fire and other sources present when a malfunctioning engine is restarted after feathering. There have been several cases where this was used in pilots' written reports as one of the justifications for proceeding and a subsequent investigation proved that, if the engines had been restarted, there would have been serious fire hazards.

A minor change has also been made in paragraph (c) to permit the pilot more latitude in transmitting the required notice to the ground radio station concerning an engine failure.

Section 41.371 *Use of liquor, narcotics, and drugs:* A section similar to § 43.45 of Part 43 which is applicable in domestic operations has been added. This requirement is considered as applicable and necessary in operations outside the continental limits of the United States as in domestic operations.

Section 41.381 *Necessity for dispatching authority:* This section has been rewritten to insure adequate flight following but to permit latitude and flexibility in redispatching from intermediate airports which is necessary in overseas operations. It is recognized that more flexibility is required in overseas operations than in domestic operations where a more close knit and rapid communications network is available. However, it is also considered that a time limitation should be established for the overseas operations after which redispatch will be required.

Section 41.387 *Dispatching under IFR, over-the-top, or overwater:* A provision has been made for dispatch to the "point of no return" to provide for more flexibility in long distance operations. This provision brings the section into consonance with present operating practice.

Section 41.389 *Alternate airport for destination; IFR or over-the-top:* A proviso for dispatch when the weather forecast meets the specified weather minimums at the airport of intended landing has been added. This proviso is similar to that in presently effective Part 40 and has been added to provide for more flexibility of operation.

Section 41.392 *Operation in icing conditions:* Requirements similar to those in Part 40 have been included.

Section 41.395 *Take-offs from alternate airports or from airports not listed in the operations specifications:* Conditions for taking off from an airport at which no weather minimums have been prescribed have been added.

Section 41.508 *Daily mechanical reports:* This section is presently the subject of separate rule making and revised Part 41 as adopted will reflect any changes made as a result thereof.

Section 41.512 *Communication records:* This section has been added as a result of Amendment 41–20, effective November 5, 1958.

The following sections have been changed in a minor or editorial fashion: §§ 41.5, 41.10, 41.11, 41.16, 41.18, 41.30, 41.36, 41.51, 41.52, 41.63, 41.91, 41.115, 41.125, 41.153, 41.177, 41.200, 41.209, 41.230, 41.242, 41.300, 41.303, 41.353, 41.362, 41.364, 41.365, 41.390, 41.391, 41.393, 41.405, 41.406, 41.502, 41.503, 41.505, 41.506, 41.507, and 41.511.

In view of the foregoing, notice is hereby given that the Bureau proposes to recommend that Part 41 of the Civil Air Regulations be revised as set forth below.

This revision is proposed under the authority of Title VI of the Civil Aeronautics Act of 1938, as amended. The proposal may be changed in the light of comment received in response to this notice of proposed rule-making.

(Sec. 205, 52 Stat. 984; 49 U. S. C. 425. Interpret or apply secs. 601–610, 52 Stat. 1007–1012, as amended; 49 U. S. C. 551–560)

Dated at Washington, D. C., December 24, 1958.

By the Bureau of Safety.

[SEAL] OSCAR BAKKE, *Director.*

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APPLICABILITY AND DEFINITIONS

§ 41.1 Applicability of this part.

The provisions of this part are applicable to air carriers holding certificates of public convenience and necessity issued in accordance with Title IV of the Civil Aeronautics Act of 1938, as amended, when they engage in scheduled air transportation with airplanes between a place in any State of the United States, or the District of Columbia, and any place in a Territory or possession of the United States; or between any place in a Territory or possession and a place in any other Territory or possession of the United States; or between places in a Territory or possession; or between any place in the United States and any place outside thereof; or between any two places outside the United States: *Provided,* That the provisions of this part shall not apply to operations conducted pursuant to economic exemption authority issued by the Board for a period of 90 days or less: *And provided further,* That the Administrator may authorize any air carrier holding authority to engage in scheduled cargo operations pursuant to Title IV of the Civil Aeronautics Act of 1938, as amended, to conduct such operations in accordance with air carrier certification and operations rules prescribed in Part 42 of this subchapter.

§ 41.2 Applicability of Parts 43 and 60 of this subchapter.

The provisions of Parts 43 and 60 of this subchapter shall be applicable to all air carrier operations conducted in the United States under the provisions of this part unless otherwise specified in this part.

§ 41.5 Definitions.

As used in this part, terms are defined as follows:

Accelerate-stop distance. Accelerate-stop distance is the distance required to accelerate an airplane to a specified speed and, assuming failure of the critical engine at the instant that speed is attained, to bring the airplane to a stop. (See the pertinent airworthiness requirements for the manner in which such distance is determined.)

Administrator. The Administrator is the Administrator of Civil Aeronautics.

Air carrier. An air carrier is any citizen of the United States who undertakes directly, or by lease or by other arrangement, the carriage by airplane of persons or property as a common carrier for compensation or hire, or the carriage of mail by airplane.

Air traffic clearance. An air traffic clearance is an authorization issued by air traffic control for an airplane to proceed under specified conditions.

Air traffic control. Air traffic control is a service provided for the purpose of: (1) Preventing collisions between airplanes, and, on the airport ground maneuvering area, between airplanes and obstructions; and (2) expediting and maintaining an orderly flow of air traffic.

Aircraft dispatcher. An aircraft dispatcher is an individual holding a valid aircraft dispatcher certificate issued by the Administrator who exercises responsibility with the pilot in command in the operational control of each flight.

Airframe. Airframe means any and all kinds of fuselages, booms, nacelles, cowlings, fairings, empennages, airfoil surfaces, and landing gear, and all parts, accessories, or controls, of whatever description, appertaining thereto, but not including engines and propellers.

Airplane. An airplane is a power-driven fixed-wing aircraft, heavier than air, which is supported by the dynamic reaction of the air against its wings.

Airport. An airport is an area of land or water which is used, or intended for use, for the landing and take-off of airplanes.

Alternate airport. An alternate airport is an approved airport to which a flight may proceed if a landing at the airport to which the flight was dispatched becomes inadvisable.

Appliances. Appliances are instruments, equipment, apparatus, parts, appurtenances, or accessories, of whatever description, which are used, or are capable of being or intended to be used, in the navigation, operation, or control of airplanes in flight (including communication equipment, electronic devices, and any other mechanism or mechanisms installed in or attached to airplanes during flight, but excluding parachutes), and which are not a part or parts of airframes, engines, or propellers.

Approved. Approved, when used alone or as modifying terms such as means, method, action, equipment, etc., means approved by the Administrator.

Authorized representative of the Administrator. An authorized representative of the Administrator is any employee of the Civil Aeronautics Administrator or any private person, authorized by the Administrator to perform particular duties of the Administrator under the provisions of this part.

Ceiling. Ceiling is the height above the ground or water of the lowest layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration" and not classified as "thin" or "partial."

Check airman. A check airman is an airman designated by the air carrier and approved by the Administrator to examine other airmen to determine their proficiency with respect to procedures and technique and their competence to perform their respective airman duties.

Control area. A control area is airspace having defined dimensions, designated by the appropriate authority within which air traffic control is exercised.

Control zone. A control zone is airspace having defined dimensions, designated by the appropriate authority, which extends upward from the surface, which includes one or more airports, and within which rules additional to those governing control areas apply for the protection of air traffic.

Crew member. A crew member is any individual assigned by an air carrier for the performance of duty on an airplane in flight.

Critical engine. The critical engine is that engine the failure of which gives the most adverse effect on the airplane flight characteristics relative to the case under consideration.

Critical-engine-failure speed, V1 (transport category airplanes). The critical-engine-failure speed is the airplane speed used in the determination of the take-off distance required at which the critical engine is assumed to fail. (See the pertinent airworthiness requirements for the manner in which such speed is determined.)

Dispatch release. A dispatch release is an authorization issued by an air carrier specifying the conditions for the

origination or continuance of a particular flight.

Effective length of runway—(1) *Take-off.* The effective length of runway for take-off as used in the take-off operating limitations for nontransport category airplanes is the distance from the end of the runway at which the take-off is started to the point at which the obstruction clearance plane associated with the other end of the runway intersects the center line of the runway.

(2) *Landing.* The effective length of runway for landing as used in the landing operating limitations for both transport and nontransport category airplanes is the distance from the point at which the obstruction clearance plane associated with the approach end of the runway intersects the center line of the runway to the far end thereof.

En route. En route means the entire flight from the point of origination to the point of termination, including intermediate stops.

Extended overwater operation. An extended overwater operation is an operation over water conducted at a distance in excess of 50 miles from the nearest shore line.

Fireproof. Fireproof material means a material which will withstand heat equally well or better than steel in dimensions appropriate for the purpose for which it is to be used. When applied to material and parts used to confine fires in designated fire zones, fireproof means that the material or part will perform this function under the most severe conditions of fire and duration likely to occur in such zones.

Fire-resistant. When applied to sheet or structural members, fire-resistant material means a material which will withstand heat equally well or better than aluminum alloy in dimensions appropriate for the purpose for which it is to be used. When applied to fluid-carrying lines, this term refers to a line and fitting assembly which will perform its intended protective functions under the heat and other conditions likely to occur at the particular location.

Flame-resistant. Flame-resistant material means a material which will not support combustion to the point of propagating, beyond safe limits, a flame after the removal of the ignition source.

Flammable. Flammable fluids or gases mean those which will ignite readily or explode.

Flash-resistant. Flash-resistant material means material which will not burn violently when ignited.

Flight crew member. A flight crew member is a crew member assigned to duty on an airplane as a pilot, flight navigator, flight engineer, or flight radio operator.

Flight engineer. A flight engineer is an individual holding a valid flight engineer certificate issued by the Administrator and whose primary assigned duty during flight is to assist the pilots in the mechanical operation of an airplane.

Flight navigator. A flight navigator is an individual holding a valid flight navigator certificate issued by the Administrator and whose primary duty during flight is the navigation of an airplane under the direction of the pilot in command.

Flight radio operator. A flight radio operator is an individual holding a valid flight radio operator certificate issued by the Administrator and whose primary duty during flight is the operation of an airplane's radio equipment under the direction of the pilot in command.

Flight time. Flight time is the time from the moment the airplane first moves under its own power for the purpose of flight until it comes to rest at the next point of landing (block-to-block time).

High-altitude operation. High-altitude operation is flight conducted within the continental limits of the United States at or above 12,500 feet above sea level east of longitude 100° W, and at or above 14,500 feet above sea level west of longitude 100° W.

IFR. IFR is the symbol used to designate instrument flight rules.

ILS. ILS is the symbol used to designate instrument landing system.

Maximum certificated take-off weight. Maximum certificated take-off weight is the maximum take-off weight authorized by the terms of the airplane airworthiness certificate.

NOTE: The airplane airworthiness certificate incorporates as a part thereof the airplane operating record or that portion of an Airplane Flight Manual which contains the pertinent limitations.

Minimum control speed. The minimum control speed is the minimum speed at which an airplane can be safely controlled in flight after an engine suddenly becomes inoperative. (See pertinent airworthiness requirements for the manner in which such speed is determined.)

Month. A month is that period of time extending from the first day of any month as delineated by the calendar through the last day thereof.

Night. Night is the time between the ending of evening civil twilight and the beginning of morning civil twilight as published in the American Air Almanac converted to local time for the locality concerned.

NOTE: The American Air Almanac containing the ending of evening twilight and the beginning of morning twilight tables may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Information is also available concerning such tables in the Offices of the Civil Aeronautics Administration or the United States Weather Bureau.

Obstruction clearance area—(1) *Take-off.* A take-off obstruction clearance area as used in the take-off operating limitations for nontransport category airplanes is an area on the earth's surface defined as follows: The center line of the obstruction clearance area in plan view shall coincide with and prolong the center line of the runway, beginning at the point where the obstruction clearance plane intersects the center line of the runway and proceeding to a point not less than 1,500 feet from the beginning point. Thereafter the center line shall proceed in a path consistent with the take-off procedure for the runway or, where such a procedure has not been established, consistent with turns of at least 4,000-foot radius until a point is reached beyond which the obstruction clearance plane clears all obstructions. The obstruction clearance area shall extend laterally for a distance of 200 feet on each side of the center line at the point where the obstruction clearance plane intersects the runway and shall continue at this width until the end of the runway; thence it shall increase uniformly to 500 feet on each side of the center line at a point 1,500 feet from the intersection of the obstruction clearance plane with the runway; thereafter it shall extend laterally for a distance of 500 feet on each side of the center line.

(2) *Landing.* A landing obstruction clearance area as used in the landing operating limitations for both transport and nontransport category airplanes is an area on the earth's surface defined as follows: The center line of the obstruction clearance area in plan view shall coincide with and prolong the center line of the runway, beginning at the point where the obstruction clearance plane intersects the center line of the runway and proceeding to a point not less than 1,500 feet from the beginning point. Thereafter the center line shall proceed in a path consistent with the instrument approach procedure for the runway or, where such a procedure has not been established, consistent with turns of at least 4,000-foot radius until a point is reached beyond which the obstruction clearance plane clears all obstructions. The obstruction clearance area shall extend laterally for a distance of 200 feet on each side of the center line at the point where the obstruction clearance plane intersects the runway and shall continue at this width until the end of the runway; thence it shall increase uniformly to 500 feet on each side of the center line at a point 1,500 feet from the intersection of the obstruction clearance plane with the runway; thereafter it shall extend laterally for a distance of 500 feet on each side of the center line.

Obstruction clearance plane. An obstruction clearance plane is a plane which is tangent to or clears all obstructions within the obstruction clearance area and which slopes upward from the runway at a slope of 1:20 to the horizontal as shown in a profile view of the obstruction clearance area.

Operational control. Operational control is the exercise of authority over initiation, continuation, diversion, or termination of a flight.

Operations specifications. Operations specifications are rules of particular applicability issued by the Administrator under delegated authority from the Board and are not part of the air carrier operating certificate.

Over-the-top. Over-the-top means the operation of an airplane above a layer of clouds or obscuring phenomena that is reported as "broken," "overcast," or "obscuration" and not classified as "thin" or "partial."

PAR. PAR is the symbol used to designate precision approach radar.

Pilot in command. The pilot in command is the pilot designated by the air carrier as the pilot responsible for the

operation and safety of the airplane during the time defined as flight time.

Pilotage. Pilotage is navigation by means of visual reference to landmarks.

Propeller. A propeller is a device for propelling an airplane through the air, having blades mounted on a power-driven shaft, which when rotated produces by its action on the air a thrust approximately parallel to the longitudinal axis of the airplane.

Point-of-no-return. Point-of-no-return means that point along a route beyond which an airplane can no longer reach, with one hour fuel remaining, an airport specified in the dispatch release at which the ceiling and visibility at the time of dispatch is and is forecast to remain at or above the alternate minimums for such airport.

Provisional airport. A provisional airport is an airport approved for use by an air carrier for the purpose of providing service to a community when the regular airport serving that community is not available.

Rating. A rating is an authorization issued with a certificate, and forming a part thereof, delineating special conditions, privileges, or limitations pertaining to such certificate.

Refueling airport. A refueling airport is an airport approved as an airport to which flights may be dispatched only for refueling.

Regular airport. A regular airport is an airport approved as a regular terminal or intermediate stop on an authorized route.

Route. A route is the airspace on either side of a course or courses joining those points on the surface of the earth between which an air carrier provides air transportation in accordance with the terms of its certificate of public convenience and necessity issued by the Board.

Route segment. A route segment is a portion of a route each terminus of which is identified by: (1) A continental or insular geographic location, or (2) a point at which a definite radio fix can be established.

Runway. A runway is a clearly defined area of an airport suitable for the safe landing or take-off of airplanes.

Second in command. Second in command means a pilot other than the pilot in command who is designated by the air carrier to act as second in command of an airplane.

Show. Show means to demonstrate or prove to the satisfaction of the Administrator prior to the issuance of the air carrier operating certificate and at any time thereafter required by the Administrator.

Synthetic trainer. A synthetic trainer is a device the use of which is approved to simulate certain operating conditions.

Take-off safety speed, V_2. The take-off safety speed is the airplane speed used in the determination of the take-off flight path at which the climb-out following take-off can be safely executed with one engine inoperative and with the airplane in the take-off configuration. (See the pertinent airworthiness requirements for the manner in which such speed is determined.)

Time in service. Time in service, as used in computing maintenance time records, is the time from the moment an airplane leaves the ground until it touches the ground at the end of a flight.

Transport category airplane. A transport category airplane is an airplane which has been type certificated in accordance with the requirements of Part 4b of this subchapter or the transport category requirements of Part 4a of this subchapter.

Type. With regard to airman qualifications, type means all airplanes of the same basic design, including all modifications thereto except those modifications which the Administrator has found result in a substantial change in characteristics pertinent to the airman concerned.

VFR. VFR is the symbol used to designate visual flight rules.

V_{s_0}. V_{s_0} is the symbol used to designate the true indicated stalling speed or the minimum steady flight speed in the landing configuration.

Visibility. Visibility is the greatest distance at which conspicuous objects can be seen and identified.

(1) *Flight visibility.* Flight visibility is the average range of visibility forward from the cockpit of an airplane in flight to see and identify prominent unlighted objects by day and prominent lighted objects by night.

(2) *Ground visibility.* Ground visibility is the visibility at the earth's surface as reported by the United States Weather Bureau or by a source approved by the Weather Bureau, or by a source approved by the Administrator.

Week. A week is that period of time extending from the first day of any week as delineated by the calendar through the last day thereof.

Year. A year is that period of time extending from the first day of any year as delineated by the calendar through the last day thereof.

Certification Rules and Operations Specifications Requirements

§ 41.10 Certificate required.

No person subject to the provisions of this part shall operate an airplane in scheduled air transportation without, or in violation of the terms of, an air carrier operating certificate issued by the Administrator.

§ 41.11 Contents of certificate.

An air carrier operating certificate shall contain the information required by section 604 of the Civil Aeronautics Act of 1938, as amended.

§ 41.12 Application for certificate.

An application for an air carrier operating certificate shall be made in the form and manner and contain information prescribed by the Administrator.

§ 41.13 Issuance of certificate.

(a) An air carrier operating certificate shall be issued by the Administrator to an applicant having a certificate of public convenience and necessity issued by the Civil Aeronautics Board when the Administrator finds, after investigation, that such person is properly and adequately equipped and able to conduct a safe operation in accordance with the requirements of this part and with the operations specifications authorized in this part.

(b) Whenever, upon investigation, the Administrator finds that the general standards of safety required for air carrier operations within Alaska, or for air carrier operations in airplanes of 12,500 pounds or less maximum certificated take-off weight, or for air carrier operations conducted pursuant to a temporary authorization issued under Title IV of the Civil Aeronautics Act of 1938, as amended, require or permit a deviation from any specific requirement for a particular operation or class of operations for which an application for an air carrier operating certificate has been made, he may issue operations specifications prescribing requirements which deviate from the requirements of this part. The Administrator shall promptly notify the Board of such deviations in the operations specifications and the reasons therefor.

§ 41.14 Amendment of certificate.

(a) The Administrator shall, after notice and opportunity for hearing to the carrier concerned, amend an air carrier operating certificate when he finds that such amendment is reasonably required in the interest of safety.

(b) Upon application by an air carrier the Administrator shall amend an air carrier operating certificate when he finds that the general standards of safety permit such an amendment.

§ 41.15 Display of certificate.

The air carrier operating certificate shall be available at the principal operations office of an air carrier for inspection by any authorized representative of the Board or the Administrator.

§ 41.16 Duration of certificate.

An air carrier operating certificate shall remain in effect until termination of the certificate of public convenience and necessity or other economic authorization issued by the Board held by the air carrier, or until surrendered, suspended, revoked or otherwise terminated by order of the Board. After suspension or revocation it shall be returned to the Administrator.

§ 41.17 Transferability of certificate.

An air carrier operating certificate is not transferable, except with the written consent of the Administrator.

§ 41.18 Operations specifications required.

(a) On and after the effective date of this part, all air carrier operations specifications currently in force relating to air transportation outside the continental limits of the United States shall cease to be a part of any air carrier operating certificate and shall be deemed to be operations specifications issued under this part. Thereafter new or amended specifications shall be issued by the Administrator for operations subject to this part in a form and manner prescribed by him and in accordance with the provisions of this part.

(b) No person subject to the provisions of this part shall operate as an air carrier without, or in violation of, operations

specifications issued by the Administrator.

§ 41.19 Contents of specifications.

The operations specifications shall contain the following:

(a) Types of operations authorized;

(b) Types of airplanes authorized for use;

(c) En route authorizations and limitations;

(d) Airport authorizations and limitations;

(e) Time limitation for overhauls, inspections, and checks of airframes, engines, propellers, and appliances, or standards by which such time limitations shall be determined;

(f) Procedures used to maintain control of weight and balance of airplanes;

(g) Interline equipment interchange requirements, if pertinent; and

(h) Such additional items as the Administrator determines, under the enabling provisions of this part, are necessary to cover a particular situation.

§ 41.20 Utilization of operations specifications.

The air carrier shall keep its personnel informed with respect to the contents of the operations specifications and all amendments thereto applicable to the individual's duties and responsibilities. A set of specifications shall be maintained by the air carrier as a separate and complete document. Pertinent excerpts from the specifications or references thereto shall be inserted in the manual issued by the air carrier.

§ 41.21 Amendment of operations specifications.

Any operations specification may be amended by the Administrator if he finds that safety in air transportation so requires or permits. Except in the case of an emergency requiring immediate action in respect to safety in air transportation or upon consent of the air carrier concerned, no amendment shall become effective prior to thirty days after the date the air carrier has been notified of such amendment. Within thirty days after either the receipt of such notice or the refusal of the Administrator to approve an air carrier's application for amendment, the air carrier may petition the Board to review the action of the Administrator. Except with regard to emergency amendments by the Administrator, the effectiveness of any amendment concerning which the carrier has petitioned for review shall be stayed pending the Board's decision.

§ 41.22 Inspection authority.

An authorized representative of the Board or the Administrator shall be permitted at any time and place to make inspections or examinations to determine an air carrier's compliance with the requirements of the Civil Aeronautics Act of 1938, as amended, the Civil Air Regulations, the provisions of the air carrier's operating certificate, and the operations specifications.

§ 41.25 Operations and maintenance base and office.

Each air carrier shall give written notice to the Administrator of his principal business office, his principal operations base, and his principal maintenance base. Thereafter, prior to any change in any such office or base, he shall give written notice to the Administrator.

REQUIREMENTS FOR SERVICES AND FACILITIES

§ 41.30 Route requirements; demonstration of competence.

The air carrier shall show that it is competent to conduct scheduled operations over any route or route segment between any regular, provisional, or refueling airport and that the facilities and services available are adequate for the type of operation proposed. The Administrator shall not require actual flight over a route or route segment if the air carrier shows that such flight is not essential to safety. The air carrier may thereafter conduct operations between regular, provisional, or refueling airports on any approved route or routes on which the operational facilities and procedures are substantially similar: *Provided,* That route approval shall not be required for high-altitude VFR operations within the continental limits of the United States.

§ 41.31 Width of routes.

A route or route segment shall include the navigable airspace on either side of an approved course or courses, and it shall have a width designated by the Administrator which the air carrier has shown to be adequate for safe operations consistent with terrain, available ground or airborne navigational aids, procedures, and systems, traffic density, and air traffic control procedures: *Provided,* That for high-altitude VFR operations within the continental limits of the United States courses need not be approved and the width of navigable airspace on either side thereof need not be designated by the Administrator.

§ 41.32 IFR routes outside of control areas.

IFR routes outside of control areas shall be approved if the air carrier shows that the navigational and communications facilities are adequate for the operations proposed, and that traffic density does not constitute a hazard: *Provided,* That IFR routes outside of control areas within the United States shall not be approved for high-altitude operations.

§ 41.33 Airports.

The air carrier shall show that each route has sufficient airports found by the Administrator to be properly equipped and adequate for the type of operations to be conducted. Consideration shall be given to items such as size, surface, obstructions, facilities, public protection, lighting, navigational and communications aids, and traffic control.

§ 41.34 Communications facilities.

The air carrier shall show that a two-way air/ground radio communication system is available at such points as will insure reliable and rapid communications under normal operating conditions over the entire route, either direct or via approved point-to-point circuits, between airplanes and the appropriate dispatch office, and between airplanes and the appropriate air traffic control unit; *Provided,* That for operations within the continental limits of the United States such communication systems between airplanes and the appropriate dispatch office shall be independent of systems operated by the Federal Government.

§ 41.35 Weather reporting facilities.

The air carrier shall show that sufficient weather reporting services are available along the route to insure weather reports and forecasts necessary for the operation. Weather reports used to control flight movements shall be those prepared and released by the U. S. Weather Bureau, or by a source approved by the Weather Bureau, or, in foreign operations when such observations are not available, by a source found by the Administrator to be satisfactory. Forecasts used to control flight movements shall be prepared from such weather reports.

§ 41.36 En route navigational facilities.

The air carrier shall show that nonvisual ground aids to air navigation are available along each route, that they are so located as to permit navigation to any regular, provisional, refueling, or alternate airport within the degree of accuracy necessary for the operation involved, and that they are available for the navigation of airplanes within the degree of accuracy required for air traffic control: *Provided,* That no ground electronic aids to navigation are required: (a) For day VFR operations where the characteristics of the terrain are such that navigation can be conducted by pilotage, or for night VFR operations along approved lighted airways or on routes where the Administrator has determined that reliably lighted landmarks are adequate for safe operations, or (b) on segments of routes where the Administrator has authorized the use of celestial or other specialized means of navigation.

§ 41.37 Servicing and maintenance facilities.

The air carrier shall show that competent personnel and adequate facilities and equipment, including spare parts, supplies, and materials, are available at such points along the air carrier's routes as are necessary for the proper servicing, maintenance, repair, and inspection of airplanes and auxiliary equipment.

§ 41.38 Location of dispatch centers.

The air carrier shall show that is has a sufficient number of dispatch centers adequate for the operations to be conducted and located at such points as are necessary to insure the proper operational control of each flight.

MANUAL REQUIREMENTS

§ 41.50 Preparation of manual.

The air carrier shall prepare and keep current a manual for the use and guidance of flight and ground operations personnel in the conduct of its operations.

§ 41.51 Contents of manual.

(a) The manual shall contain instructions, information, and data necessary for the personnel concerned to carry out

their duties and responsibilities with a high degree of safety. It shall be in a form to facilitate easy revision, and each page shall bear the date of the last revision thereof. The contents of such manual shall not be contrary to the provisions of any Federal regulations, foreign regulations where applicable, operations specifications, or the operating certificate. The manual may be in two or more separate parts (e. g., flight operations, ground operations, maintenance, communications, etc.) to facilitate use by the personnel concerned, but each part shall contain so much of the information listed below as is appropriate for each group of personnel:

(1) General policies;

(2) Duties and responsibilities of each crew member and appropriate members of the ground organization;

(3) Reference to appropriate regulations in this subchapter and Civil Aeronautics Manual;

(4) Flight dispatching and control, including procedures for coordinated dispatch;

(5) En route flight, navigational, and communication procedures, including procedures for the dispatch or continuance of flight, if any item of equipment required for the particular type of operation becomes inoperative or unserviceable en route;

(6) Appropriate information from the en route operations specifications, including for each approved route the types of airplanes authorized, their crew complement, the type of operation (i. e., VFR, IFR, day, night) and other pertinent information;

(7) Appropriate information from the airport operations specifications, including for each airport its location, its designation (i. e., regular, alternate, provisional, etc.), types of airplanes authorized, instrument approach procedures, landing and take-off minimums, and other pertinent information;

(8) Take-off, en route, and landing weight limitations;

(9) Procedures for familiarizing passengers with the use of emergency equipment during flight;

(10) Emergency procedures and equipment;

(11) The method of designating succession of command of flight crew members;

(12) Procedures for determining the usability of landing and take-off areas and for dissemination of pertinent information to operations personnel;

(13) Procedures for operation during periods of icing, hail, thunderstorms, turbulence, or any potentially hazardous meterological conditions;

(14) Airman training programs, including appropriate ground, flight, and emergency phases;

(15) Instructions and procedures for maintenance, repair, overhaul, and servicing;

(16) Time limitations for overhaul, inspection, and checks, of airframes, engines, propellers, and appliances, or standards by which such time limitations shall be determined;

(17) Procedures for refueling airplanes, elimination of fuel contamination, protection from fire including electrostatic protection, and the supervision and protection of passengers during refueling;

(18) Inspections for airworthiness, including instructions covering procedures, standards, responsibilities, and authority of the inspection personnel;

(19) Methods and procedures for maintaining the airplane weight and center of gravity within approved limits;

(20) Pilot and dispatcher route and airport qualification procedures;

(21) Accident notification procedures; and

(22) Other data or instructions related to safety.

(b) At least one complete master copy of the manual containing all parts thereof shall be retained at the appropriate operations base of the air carrier.

§ 41.52 Distribution of manual.

(a) Copies of the entire manual, or appropriate portions thereof, together with revisions thereto shall be furnished to the following:

(1) Appropriate ground operations and maintenance personnel of the air carrier;

(2) Crew members; and

(3) Authorized representatives of the Administrator assigned to the air carrier to act as CAA Flight Operations and Airworthiness Inspectors.

(b) All copies of the manual shall be kept up to date.

§ 41.53 Airplane Flight Manual.

(a) The air carrier shall keep current an approved Airplane Flight Manual for each type of transport category airplane which it operates.

(b) An approved Airplane Flight Manual or a manual complying with § 41.50 and containing information required for the Airplane Flight Manual shall be carried in each transport category airplane.

AIRPLANE REQUIREMENTS

§ 41.60 General.

Airplanes shall be identified, certificated, and equipped in accordance with the applicable airworthiness requirements of the regulations in this subchapter. No air carrier shall operate any airplane in scheduled operation unless such airplane meets the requirements of this part and is in an airworthy condition.

§ 41.61 Airplane certification requirements.

(a) *Airplanes certificated on or before June 30, 1942.* Airplanes certificated as a basic type on or before June 30, 1942, shall either:

(1) Retain their present airworthiness certification status and meet the requirements of § 41.90, or

(2) Comply with either the performance requirements of §§ 4a.737–T through 4a.750–T of this subchapter or the performance requirements of §§ 4b.110 through 4b.125 of this subchapter and in addition shall meet the requirements of § 41.70: *Provided,* That should any type be so qualified, all airplanes of any one operator of the same or related types shall be similarly qualified and operated.

(b) *Airplanes certificated after June 30, 1942.* Airplanes certificated as a basic type after June 30, 1942, and used in passenger operation shall be certificated as transport category airplanes and shall meet the requirements of § 41.70.

§ 41.62 Airplane limitation for type of route.

All airplanes used in passenger air transportation shall be multiengine airplanes and shall comply with the following requirements:

(a) *Two- or three-engine airplanes.* Two- or three-engine airplanes shall not be used in passenger-carrying operations unless adequate airports are so located along the route that the airplanes will at no time be at a greater distance therefrom than one hour of flying time in still air at normal cruising speed with one engine inoperative: *Provided,* That the Administrator may specify distances greater or less than those set forth herein when he determines that the character of the terrain, the type of operation, or the performance of the airplanes to be used so permit or require.

(b) *Land airplanes on extended overwater routes.* Land airplanes operated on flights involving extended overwater operations shall be certificated as adequate for ditching in accordance with the ditching provisions of Part 4b of this subchapter: *Provided,* That the DC–3 and C–46 type airplanes need not be so certificated.

§ 41.63 Proving tests.

(a) A type of airplane not previously proved for use in scheduled operation shall have at least 100 hours of proving tests, in addition to the airplane certification tests, accomplished under the supervision of an authorized representative of the Administrator. As part of the 100-hour total at least 50 hours shall be flown over authorized routes and at least 10 hours shall be flown at night.

(b) A type of airplane which has been previously proved shall be tested for at least 50 hours, of which at least 25 hours shall be flown over authorized routes, unless deviations are specifically authorized by the Administrator on the ground that the special circumstances of a particular case make a literal observance of the requirements of this paragraph unnecessary for safety, when the airplane:

(1) Is materially altered in design, or

(2) Is to be used by an air carrier who has not previously proved such a type.

(c) During proving tests only those persons required to make the tests and those authorized by the Board or the Administrator shall be carried. Mail, express, and other cargo may be carried when approved by the Administrator.

AIRPLANE PERFORMANCE OPERATING LIMITATIONS; TRANSPORT CATEGORY

NOTE: See Special Civil Air Regulation No. SR–422 or No. SR–422A for regulations applicable to turbine-powered transport category airplanes.

§ 41.70 Transport category airplane operating limitations.

(a) In operating any passenger-carrying transport category airplane the provisions of §§ 41.71 to 41.78 shall be complied with, unless deviations there-

from are specifically authorized by the Administrator on the ground that the special circumstances of a particular case make a literal observance of the requirements unnecessary for safety.

(b) For transport category airplanes the performance data contained in the Airplane Flight Manual shall be applied in determining compliance with these provisions. Where conditions differ from those for which specific tests were made, compliance shall be determined by interpolation or by computation of the effects of changes in the specific variables where such interpolations or computations will give results substantially equaling in accuracy the results of a direct test.

(c) No airplane shall be taken off at a weight which exceeds the allowable weight for the runway being used as determined in accordance with the take-off runway limitations of the transport category operating rules of this part, after taking into account the temperature operating correction factors required by §§ 4a.749a–T or 4b.117 of this subchapter, and set forth in the Airplane Flight Manual for the airplane.

§ 41.71 Weight limitations.

(a) No airplane shall be taken off from any airport located at an elevation outside of the altitude range from which maximum take-off weights have been determined, and no airplane shall depart for an airport of intended destination or have any airport specified as an alternate which is located at an elevation outside of the altitude range for which maximum landing weights have been determined.

(b) The weight of the airplane at take-off shall not exceed the authorized maximum take-off weight for the elevation of the airport from which the take-off is to be made.

(c) The weight at take-off shall be such that, allowing for normal consumption of fuel and oil in flight to the airport of intended destination, the weight on arrival will not exceed the authorized maximum landing weight for the elevation of such airport.

§ 41.72 Take-off limitations to provide for engine failure.

No take-off shall be made except under conditions which will permit compliance with the following requirements:

(a) It shall be possible, from any point in the take-off up to the time of attaining the critical-engine-failure speed, to bring the airplane to a safe stop on the runway as shown by the accelerate-stop distance data.

(b) It shall be possible, if the critical engine should fail at any instant after the airplane attains the critical-engine-failure speed, to proceed with the take-off and attain a height of 50 feet, as indicated by the take-off path data, before passing over the end of the runway. Thereafter it shall be possible to clear all obstacles, either by at least 50 feet vertically, as shown by the take-off path data, or by at least 200 feet horizontally within the airport boundaries and by at least 300 feet horizontally after passing beyond such boundaries. In determining the allowable deviation of the flight path in order to avoid obstacles by at least the distances above set forth, in shall be assumed that the airplane is not banked before reaching a height of 50 feet, as shown by the take-off path data, and that a maximum bank thereafter does not exceed 15°.

(c) In applying the requirements of paragraphs (a) and (b) of this section, corrections shall be made for any gradient of the take-off surface. To allow for wind effect, take-off data based on still air may be corrected by not more than 50 percent of the reported wind component along the take-off path if opposite to the direction of take-off, and shall be corrected by not less than 150 percent of the reported wind component if in the direction of take-off.

§ 41.73 En route limitations; all engines operating.

No airplane shall be taken off at a weight in excess of that which would permit a rate of climb (expressed in feet per minute), with all engines operating, of at least 6 V_{s_0} (when V_{s_0} is expressed in miles per hour) at an altitude of at least 1,000 feet above the elevation of the highest ground or obstruction within 10 miles on either side of the intended track. Transport category airplanes certificated under Part 4a of this subchapter are not required to comply with this section. For the purpose of this section it shall be assumed that the weight of the airplane as it proceeds along its intended track is progressively reduced by normal consumption of fuel and oil.

§ 41.74 En route limitations; one engine inoperative.

(a) No airplane shall be taken off at a weight in excess of that which would permit a rate of climb (expressed in feet per minute), with one engine inoperative, of at least $\left(0.06-\frac{0.08}{N}\right)V_{s_0}^2$ (when N is the number of engines installed and V_{s_0} is expressed in miles per hour) at an altitude of at least 1,000 feet above the elevation of the highest ground or obstruction within 10 miles on either side of the intended track, except that for transport category airplanes certificated under Part 4a of this subchapter, the rate of climb shall be $0.02\ V_{s_0}^2$.

(b) As an alternative to the provisions of paragraph (a) of this section, an air carrier may utilize an approved procedure whereby its airplanes are operated at an all-engines-operating altitude such that in the event of an engine failure the airplane can continue flight to an alternate airport where a landing can be made in accordance with the provisions of § 41.78, the flight path clearing all terrain and obstructions along the route within 5 miles on either side of the intended track by at least 2,000 feet. In addition, if such a procedure is utilized, subparagraphs (1) through (6) shall be complied with:

(1) The rate of climb (as presented in the Airplane Flight Manual for the appropriate weight and altitude) used in calculating the airplane's flight path shall be diminished by an amount, in feet per minute, equal to $\left(0.06-\frac{0.08}{N}\right)V_{s_0}^2$ (when N is the number of engines installed and V_{s_0} is expressed in miles per hour) for airplanes certificated under Part 4b of this subchapter and by $0.02\ V_{s_0}^2$ for airplanes certificated under Part 4a of this subchapter.

(2) The all-engines-operating altitude shall be such that, in the event the critical engine becomes inoperative at any point along the route, the flight will be capable of proceeding to a predetermined alternate airport by use of this procedure. For the purpose of determining the take-off weight, the airplane shall be assumed to pass over the critical obstruction following engine failure at a point no closer to the critical obstruction than the nearest approved radio navigational fix: *Provided*, That the Administrator may authorize a procedure established on a different basis where adequate operational safeguards are found to exist.

(3) The airplane shall meet the provisions of paragraph (a) of this section at 1,000 feet above the airport used as an alternate in this procedure.

(4) The procedure shall include an approved method of accounting for winds and temperatures which would otherwise adversely affect the flight path.

(5) In complying with this procedure fuel jettisoning shall be permitted if the Administrator finds that the air carrier has an adequate training program, proper instructions are given to the flight crew, and all other precautions are taken to insure a safe procedure.

(6) The alternate airport shall be specified in the dispatch release and shall meet the provisions of § 41.390.

(c) For the purposes of this section it shall be assumed that the weight of the airplane as it proceeds along its intended track is progressively reduced by normal consumption of fuel and oil.

§ 41.75 En route limitations; two engines inoperative.

The provisions of this section shall apply only to airplanes certificated in accordance with the performance requirements of Part 4b of this subchapter. No airplane having four or more engines shall be flown along an intended track except under the conditions of either paragraph (a) or paragraph (b) of this section.

(a) No place along the intended track shall be more than 90 minutes away from an available landing area at which a landing can be made in accordance with the requirements of § 41.78, assuming all engines to be operating at cruising power.

(b) The take-off weight shall not be greater than that which would permit the airplane, with the two critical engines inoperative, to have a rate of climb in feet per minute equal to $0.01\ V_{s_0}^2$ (V_{s_0} being expressed in miles per hour) along all points of the route, from the point where the two engines are assumed to fail simultaneously to the landing area, either at an altitude of 1,000 feet above the elevation of the highest ground or obstruction within 10 miles on either side of the intended track or at an altitude of 5,000 feet, whichever is higher. The point where the two engines are assumed to fail shall be that point along

the route which is most critical with respect to the take-off weight. In showing compliance with this prescribed rate of climb, the following shall apply:

(1) It shall be permissible to consider that the weight of the airplane as it proceeds along its intended track is progressively reduced by normal consumption of fuel and oil with all engines operating up to the point where the two engines are assumed to fail and with two engines operating beyond that point.

(2) Where the engines are assumed to fail at an altitude above the prescribed minimum altitude, compliance with the prescribed rate of climb at the prescribed minimum altitude need not be shown during the descent from the cruising altitude to the prescribed minimum altitude if, at the end of the descent and during the subsequent portion of the flight, the prescribed rate of climb is met at the prescribed minimum altitudes. The descent shall be assumed to be along a net flight path and the rate of descent for the appropriate weight and altitude shall be assumed to be $0.01\ V_{s_0}^2$ greater than indicated by the performance information approved by the Administrator.

(3) If fuel jettisoning is provided, the airplane's weight at the point where the two engines are assumed to fail shall be considered to be not less than that which would include sufficient fuel to proceed to an available landing area at which a landing can be made in accordance with the requirements of § 41.78 and to arrive there at an altitude of at least 1,000 feet directly over the landing area.

§ 41.76 Special en route limitations.

The 10-mile lateral distance specified in §§ 41.73 through 41.75 may, for a distance of no more than 20 miles, be reduced to 5 miles, if operating VFR, or if air navigational facilities are so located as to provide a reliable and accurate identification of any high ground or obstruction located outside of such 5-mile lateral distance but within the 10-mile distance.

§ 41.77 Landing distance limitations; airport of destination.

No airplane shall be taken off at a weight in excess of that which, under the conditions stated in this part, would permit the airplane to be brought to rest at the field of intended destination within 60 percent of the effective length of the runway from a point 50 feet directly above the intersection of the obstruction clearance plane and the runway. For the purpose of this section it shall be assumed that the take-off weight of the airplane is reduced by the weight of the fuel and oil expected to be consumed in flight to the field of intended destination.

(a) It shall be assumed that the airplane is landed on the most favorable runway and direction in still air.

(b) It shall be assumed, considering the probable wind velocity and direction, that the airplane is landed on the most suitable runway, taking due account of the ground handling characteristics of the airplane type involved and other conditions (e. g., landing aids, terrain, etc.) and allowing for the effect on the landing path and roll of not more than 50 percent of the wind component along the landing path if opposite to the direction of landing, or not less than 150 percent of the wind component if in the direction of landing.

(c) If the airport of intended destination will not permit full compliance with paragraph (b) of this section, the airplane may be taken off if an alternate airport is designated which permits compliance with § 41.78.

§ 41.78 Landing distance limitations; alternate airports.

No airport shall be designated as an alternate airport in a dispatch release unless the airplane at the weight anticipated at the time of arrival at such airport can comply with the requirements of § 41.77: *Provided,* That the airplane can be brought to rest within 70 percent of the effective length of the runway.

AIRPLANE PERFORMANCE OPERATING LIMITATIONS; NONTRANSPORT CATEGORY

§ 41.90 Nontransport category airplane operating limitations.

In operating any large, nontransport category airplane in passenger service, the provisions of §§ 41.91 to 41.94 shall be complied with, unless deviations therefrom are specifically authorized by the Administrator on the ground that the special circumstances of a particular case make a literal observance of the requirements unnecessary for safety. Performance data published or approved by the Administrator for each such nontransport category airplane shall be used in determining compliance with the provisions of §§ 41.91 to 41.94.

§ 41.91 Take-off limitations.

No take-off shall be made at a weight in excess of that which will permit the airplane to be brought to a safe stop within the effective length of the runway from any point during the take-off up to the time of attaining 105 percent of minimum control speed or 115 percent of the power-off stalling speed in the take-off configuration, whichever is the greater. In applying the requirements of this section:

(a) It may be assumed that take-off power is used on all engines during the acceleration;

(b) Account may be taken of not more than 50 percent of the reported wind component along the take-off path if opposite to the direction of take-off, and account shall be taken of not less than 150 percent of the reported wind component if in the direction of the take-off;

(c) Account shall be taken of the average runway gradient when the average gradient is greater than ½ percent. The average runway gradient is the difference between the elevations of the end points of the runway divided by the total length: *Provided,* That for all uphill gradients greater than one percent, the effective take-off length of the runway shall be reduced 20 percent for each one percent grade;

(d) It shall be assumed that the airplane is operating in the standard atmosphere.

§ 41.92 En route limitations; one engine inoperative.

(a) No take-off shall be made at a weight in excess of that which will permit the airplane to climb at a rate of at least 50 feet per minute with the critical engine inoperative at an altitude of at least 1,000 feet above the elevation of the highest obstacle within 5 miles on either side of the intended track or at an altitude of 5,000 feet, whichever is the higher: *Provided,* That in the alternative an air carrier may utilize a procedure whereby the airplane is operated at an altitude such that, in event of an engine failure, the airplane can clear the obstacles within 5 miles on either side of the intended track by 1,000 feet, if the air carrier can demonstrate to the satisfaction of the Administrator that such a procedure can be used without impairing the safety of operation. If such a procedure is utilized, the rate of descent for the appropriate weight and altitude shall be assumed to be 50 feet per minute greater than indicated by the performance information published or approved by the Administrator. Before approving such a procedure, the Administrator shall take into account, for the particular route, route segment, or areas concerned, the reliability of wind and weather forecasting, the location and types of aids to navigation, the prevailing weather conditions, particularly the frequency and amount of turbulence normally encountered, terrain features, air traffic control problems, and all other operational factors which affect the safety of an operation utilizing such a procedure.

(b) In applying the requirements of paragraph (a) of this section, it shall be assumed that:

(1) The critical engine is inoperative;

(2) The propeller of the inoperative engine is in the minimum drag position;

(3) The wing flaps and landing gear are in the most favorable positions;

(4) The operative engine or engines are operating at the maximum continuous power available;

(5) The airplane is operating in the standard atmosphere; and

(6) The weight of the airplane is progressively reduced by the weight of the anticipated consumption of fuel and oil.

§ 41.93 Landing distance limitations; airport of intended destination.

No take-off shall be made at a weight in excess of that which, allowing for the anticipated weight reduction due to consumption of fuel and oil, will permit the airplane to be brought to a stop within 60 percent of the effective length of the most suitable runway at the airport of intended destination.

(a) This weight shall in no instance be greater than that permissible if the landing were to be made:

(1) On the runway with the greatest effective length in still air, and

(2) On the runway required by the probable wind, taking into account not more than 50 percent of the probable headwind component and not less than 150 percent of the probable tail-wind component.

(b) In applying the requirements of this section it shall be assumed that:

(1) The airplane passes directly over the intersection of the obstruction clearance plane and the runway at a height of 50 feet in a steady gliding approach at a true indicated air speed of at least $1.3\ V_{s_0}$;

(2) The landing is made in such a manner that it does not require any exceptional degree of skill on the part of the pilot; and

(3) The airplane is operating in the standard atmosphere.

§ 41.94 Landing distance limitations; alternate airports.

No airport shall be designated as an alternate airport in a dispatch release unless the airplane at the weight anticipated at the time of arrival at such airport can comply with the requirements of § 41.93: *Provided*, That the airplane can be brought to rest within 70 percent of the effective length of the runway.

SPECIAL AIRWORTHINESS REQUIREMENTS

§ 41.110 Fire prevention.

All airplanes used in passenger service, powered by engines rated at more than 600 horsepower each for maximum continuous operation and which have not been certificated in accordance with the provisions of Part 4b of this subchapter in effect on or after November 1, 1946, shall comply with the requirements contained in §§ 41.111 to 41.143: *Provided*, That if the Administrator finds that in particular models of existing airplanes literal compliance with specific items of these requirements might be extremely difficult of accomplishment and that such compliance would not contribute materially to the objective sought, he may accept such measures of compliance as he finds will effectively accomplish the basic objectives of these regulations.

§ 41.111 Susceptibility of materials to fire.

The Administrator shall prescribe the heat conditions and testing procedures which any specific material or individual part must meet where necessary for the purpose of applying the following defined terms: fireproof, fire-resistant, flame-resistant, flash-resistant, and flammable.

§ 41.112 Cabin interiors.

All compartments occupied or used by the crew or passengers shall comply with the following provisions:

(a) Materials shall in no case be less than flash-resistant.

(b) The wall and ceiling linings, the covering of all upholstering, floors, and furnishings shall be flame-resistant.

(c) Compartments where smoking is to be permitted shall be equipped with ash trays of the self-contained type which are completely removable. All other compartments shall be placarded against smoking.

(d) All receptacles for used towels, papers, and wastes shall be of fire-resistant material and shall incorporate covers or other provisions for containing possible fires started in the receptacles.

§ 41.113 Internal doors.

Where internal doors are equipped with louvres or other ventilating means, provision convenient to the crew shall be made for closing the flow of air through the door when such action is found necessary.

§ 41.114 Ventilation.

All passenger and crew compartments shall be suitably ventilated. Carbon monoxide concentration shall not exceed one part in 20,000 parts of air, and fuel fumes shall not be present. Where partitions between compartments are equipped with louvres or other means allowing air to flow between such compartments, provision convenient to the crew shall be made for closing the flow of air through the louvres or other means when such action is found necessary.

§ 41.115 Fire precautions.

Each compartment shall be designed so that, when used for the purpose of storing cargo or baggage, it shall comply with all of the requirements prescribed for cargo or baggage compartments. It shall include no controls, wiring, lines, equipment, or accessories the damage or failure of which would affect the safe operation of the airplane, unless such item is adequately shielded, isolated, or otherwise protected so that it cannot be damaged by movement of cargo in the compartment, and so that any breakage or failure of such item would not create a fire hazard in the compartment. Provision shall be made to prevent cargo or baggage from interfering with the functioning of the fire-protective features of the compartment. All materials used in the construction of cargo or baggage compartments, including tie-down equipment, shall be flame-resistant or better. In addition, all cargo and baggage compartments shall include provisions for safeguarding against fires according to the following classifications:

(a) Cargo and baggage compartments shall be classified in the "A" category if presence of a possible fire therein can be readily discernible to a member of the crew while at his station, and if all parts of the compartment are easily accessible in flight. A hand fire extinguisher shall be available for such compartment.

(b) Cargo and baggage compartments shall be classified in the "B" category if sufficient access is provided while in flight to enable a member of the crew to move by hand all contents and to reach effectively all parts of the compartment with a hand fire extinguisher. Furthermore, the design of the compartment shall be such that, when the access provisions are being used, no hazardous quantity of smoke, flames, or extinguishing agent will enter any compartment occupied by the crew or passengers. Each compartment in this category shall be equipped with a separate system of an approved type smoke detector or fire detector to give warning at the pilot or flight engineer station. Hand fire extinguishers shall be readily available for use in all compartments of this category. Compartments in this category shall be completely lined with fire-resistant material, except that additional service lining of flame-resistant material may be employed.

(c) Cargo and baggage compartments shall be classified in the "C" category if they do not conform with the requirements for the "A" or "B" categories. Each compartment of the "C" category shall be equipped with: (1) A separate system of an approved type smoke detector or fire detector to give warning at the pilot or flight engineer station, and (2) an approved built-in fire-extinguishing system controlled from the pilot or flight engineer station. Means shall be provided to exclude hazardous quantities of smoke, flames, or extinguishing agent from entering into any compartment occupied by the crew or passengers. Ventilation and drafts shall be further controlled within each such cargo or baggage compartment to the extent that the extinguishing agent provided can control any fire which may start within the compartment. All cargo and baggage compartments of this category shall be completely lined with fire-resistant material, except that additional service lining of flame-resistant material may be employed.

(d) Cargo and baggage compartments shall be classified in the "D" category if they are so designed and constructed that a fire occurring therein will be completely confined without endangering the safety of the airplane or the occupants. Compliance shall be shown with the following:

(1) Means shall be provided to exclude hazardous quantities of smoke, flames, or other noxious gases from entering into any compartment occupied by the crew or passengers.

(2) Ventilation and drafts shall be controlled within each compartment so that any fire likely to occur in the compartment will not progress beyond safe limits.

NOTE: For compartments having a volume not in excess of 500 cu. ft., an airflow of not more than 1,500 cu. ft. per hour is considered acceptable. For larger compartments lesser airflow may be applicable.

(3) The compartment shall be completely lined with fire-resistant material.

(4) Consideration shall be given to the effect of heat within the compartment on adjacent critical parts of the airplane.

§ 41.116 Proof of compliance.

Compliance with those provisions of § 41.115 which refer to compartment accessibility, the entry of hazardous quantities of smoke or extinguishing agent into compartments occupied by the crew or passengers, and the dissipation of the extinguishing agent in category "C" compartments shall be demonstrated by tests in flight. It shall also be demonstrated during these tests that no inadvertent operation of smoke or fire detectors in adjacent or other compartments within the airplane would occur as a result of fire contained in any one compartment, either during or after extinguishment, unless the extinguishing system floods such compartments simultaneously.

§ 41.117 Propeller de-icing fluid.

If combustible fluid is used for propeller de-icing, the provisions of § 41.131 shall be complied with.

§ 41.118 Pressure cross-feed arrangements.

Pressure cross-feed lines shall not pass through portions of the airplane devoted to carrying personnel or cargo unless means are provided to permit the flight personnel to shut off the supply of fuel to these lines, or unless the lines are enclosed in a fuel- and fume-proof enclosure that is ventilated and drained to the exterior of the airplane. Such enclosures need not be used if these lines incorporate no fittings on or within the personnel or cargo areas and are suitably routed or protected to safeguard against accidental damage. Lines which can be isolated from the remainder of the fuel system by means of valves at each end shall incorporate provisions for the relief of excessive pressures that may result from exposure of the isolated line to high ambient temperatures.

§ 41.119 Location of fuel tanks.

Location of fuel tanks shall comply with the provisions of § 41.132. In addition, no portion of engine nacelle skin which lies immediately behind a major air egress opening from the engine compartment shall act as the wall of an integral tank. Fuel tanks shall be isolated from personnel compartments by means of fume- and fuel-proof enclosures.

§ 41.120 Fuel system lines and fittings.

Fuel lines shall be installed and supported in a manner that will prevent excessive vibration and will be adequate to withstand loads due to fuel pressure and accelerated flight conditions. Lines which are connected to components of the airplane between which relative motion may exist shall incorporate provisions for flexibility. Flexible connections in lines which may be under pressure and subjected to axial loading shall employ flexible hose assemblies rather than hose clamp connections. Flexible hose shall be of an acceptable type or proven suitable for the particular application.

§ 41.121 Fuel lines and fittings in designated fire zones.

Fuel lines and fittings in all designated fire zones (see § 41.131) shall comply with the provisions of § 41.134.

§ 41.122 Fuel valves.

In addition to the requirements contained in § 41.133 for shutoff means, all fuel valves shall be provided with positive stops or suitable index provisions in the "on" and "off" positions and shall be supported in such a manner that loads resulting from their operation or from accelerated flight conditions are not transmitted to the lines connected to the valve.

§ 41.123 Oil lines and fittings in designated fire zones.

Oil lines and fittings in all designated fire zones (see § 41.131) shall comply with the provisions of § 41.134.

§ 41.124 Oil valves.

Requirements of § 41.133 for shutoff means shall be complied with. Closing of oil shutoff means shall not prevent feathering the propeller, unless equivalent safety provisions are incorporated. All oil valves shall be provided with positive stops or suitable index provisions in the "on" and "off" positions, and shall be supported in such a manner that loads resulting from their operation or from accelerated flight conditions are not transmitted to the lines attached to the valve.

§ 41.125 Oil system drains.

Accessible drains shall be provided to permit safe drainage of the entire oil system and shall incorporate either a manual or automatic means for positive locking in the closed position.

§ 41.126 Engine breather line.

Engine breather lines shall be so arranged that condensed water vapor which may freeze and obstruct the line cannot accumulate at any point. Breathers shall discharge in a location which will not constitute a fire hazard in case foaming occurs and so that oil emitted from the line will not impinge upon the pilots' windshield. The breather shall not discharge into the engine air induction system. (See also § 41.135.)

§ 41.127 Fire walls.

All engines, auxiliary power units, fuel-burning heaters, and other combustion equipment which are intended for operation in flight shall be isolated from the remainder of the airplane by means of fire walls or shrouds, or other equivalent means.

§ 41.128 Fire-wall construction.

Fire walls and shrouds shall be constructed in such a manner that no hazardous quantity of air, fluids, or flame can pass from the engine compartment to other portions of the airplane. All openings in the fire wall or shroud shall be sealed with close-fitting fireproof grommets, bushings, or fire-wall fittings. Fire walls and shrouds shall be constructed of fireproof material and shall be protected against corrosion. The following materials have been found to comply with this requirement:

(a) Heat and corrosion resistant steel 0.015 inch thick;

(b) Low carbon steel, suitably protected against corrosion, 0.018 inch thick.

§ 41.129 Cowling.

Cowling shall be constructed and supported in such a manner as to be capable of resisting all vibration, inertia, and air loads to which it may normally be subjected. Provision shall be made to permit rapid and complete drainage of all portions of the cowling in all normal ground and flight attitudes. Drains shall not discharge in locations constituting a fire hazard. Cowling, unless otherwise specified by these regulations, shall be constructed of fire-resistant material. Those portions of the cowling which are subjected to high temperatures due to their proximity to exhaust system parts or exhaust gas impingement shall be constructed of fireproof material.

§ 41.130 Engine accessory section diaphragm.

Unless equivalent protection can be demonstrated by other means, a diaphragm shall be provided on air-cooled engines to isolate the engine power section and all portions of the exhaust system from the engine accessory compartment. This diaphragm shall comply with the provisions of § 41.128.

§ 41.131 Powerplant fire protection.

Engine accessory sections, installations where no isolation is provided between the engine and accessory compartment, also regions wherein lie auxiliary power units, fuel-burning heaters, and other combustion equipment shall be referred to as designated fire zones. Such zones shall be protected from fire by compliance with §§ 41.132 through 41.135.

§ 41.132 Flammable fluids.

No tanks or reservoirs which are a part of a system containing flammable fluids or gases shall be located in designated fire zones, except where the fluid contained, the design of the system, the materials used in the tank, the shutoff means, and all connections, lines, and controls are such as to provide equivalent safety. Not less than ½ inch of clear air space shall be provided between any tank or reservoir and a fire wall or shroud isolating a designated fire zone.

§ 41.133 Shutoff means.

Means for each individual engine shall be provided for shutting off or otherwise preventing hazardous quantities of fuel, oil, de-icer, and other flammable fluids from flowing into, within, or through any designated fire zone, except that means need not be provided to shut off flow in lines forming an integral part of an engine. In order to facilitate rapid and effective control of fires, such shutoff means shall permit an emergency operating sequence which is compatible with the emergency operation of other equipment, such as feathering the propeller. Shutoff means shall be located outside of designated fire zones, unless equivalent safety is provided (see § 41.132), and it shall be shown that no hazardous quantity of such flammable fluid will drain into any designated fire zone after shutting off has been accomplished. Adequate provisions shall be made to guard against inadvertent operation of the shutoff means and to make it possible for the crew to reopen the shutoff means after it has once been closed.

§ 41.134 Lines and fittings.

All lines and fittings for same located in designated fire zones which carry flammable fluids or gases and which are under pressure, or which attach directly to the engine, or are subject to relative motion between components, exclusive of those lines and fittings forming an integral part of the engine, shall be flexible, fire-resistant lines with fire-resistant, factory-fixed, detachable, or other approved fire-resistant ends. Lines and fittings which are not subject to pressure or to relative motion between components shall be of fire-resistant materials.

§ 41.135 Vent and drain lines.

All vent and drain lines and fittings for same located in designated fire zones and which carry flammable fluids or

gases shall comply with the provisions of § 41.134, if the Administrator finds that rupture or breakage of a particular drain or vent line may result in a fire hazard.

§ 41.136 Fire-extinguishing systems.

(a) Unless it can be demonstrated that equivalent protection against destruction of the airplane in case of fire is provided by the use of fireproof materials in the nacelle and other components which would be subjected to flame, fire-extinguishing systems shall be provided to serve all designated fire zones.

(b) Materials in the fire-extinguishing system shall not react chemically with the extinguishing agent so as to constitute a hazard.

§ 41.137 Fire-extinguishing agents.

Extinguishing agents employed shall be methyl bromide, carbon dioxide, or any other agent which has been demonstrated to provide equivalent extinguishing action. If methyl bromide or any other toxic extinguishing agent is employed, provisions shall be made to prevent the entrance of harmful concentrations of fluid or fluid vapors into any personnel compartment either due to leakage during normal operation of the airplane or as a result of discharging the fire extinguisher on the ground or in flight when a defect exists in the extinguishing system. If a methyl bromide system is provided, the containers shall be charged with dry agent and shall be sealed by the fire-extinguisher manufacturer or any other party employing satisfactory recharging equipment. If carbon dioxide is used, it shall not be possible to discharge sufficient gas into personnel compartments to constitute a hazard from the standpoint of suffocation of the occupants.

§ 41.138 Extinguishing agent container pressure relief.

Extinguishing agent containers shall be provided with a pressure relief to prevent bursting of the container due to excessive internal pressures. The discharge line from the relief connection shall terminate outside the airplane in a location convenient for inspection on the ground. An indicator shall be provided at the discharge end of the line to provide a visual indication when the container has discharged.

§ 41.139 Extinguishing agent container compartment temperature.

Precautions shall be taken to assure that the extinguishing agent containers are installed in locations where reasonable temperatures can be maintained for effective use of the extinguishing system.

§ 41.140 Fire-extinguishing system materials.

All components of fire-extinguishing systems located in designated fire zones shall be constructed of fireproof materials, except for connections which are subject to relative motion between components of the airplane, in which case they shall be of flexible fire-resistant construction so located as to minimize the possibility of failure.

§ 41.141 Fire-detector systems.

Quick-acting fire detectors shall be provided in all designated fire zones and shall be sufficient in number and location to assure the detection of fire which may occur in such zones.

§ 41.142 Fire detectors.

Fire detectors shall be constructed and installed in such a manner as to assure their ability to resist without failure, all vibration, inertia, and other loads to which they may normally be subjected. Detectors shall be unaffected by exposure to oil, water, or other fluids or fumes which may be present.

§ 41.143 Protection of other airplane components against fire.

All airplane surfaces aft of the nacelles in the region of one nacelle diameter on both sides of the nacelle center line shall be constructed of fire-resistant material. This provision need not be applied to tail surfaces lying behind nacelles unless the dimensional configuration of the airplane is such that the tail surfaces could be affected readily by heat, flames, or sparks emanating from a designated fire zone or engine compartment of any nacelle.

§ 41.150 Control of engine rotation.

All airplanes shall be provided with means for individually stopping and restarting the rotation of any engine in flight, except that for turbine engine installations means for completely stopping the rotation need be provided only if the Administrator finds that rotation could jeopardize the safety of the airplane.

§ 41.151 Fuel system independence.

Airplane fuel systems shall be arranged in such manner that the failure of any one component will not result in the irrecoverable loss of power of more than one engine. A separate fuel tank need not be provided for each engine if the Adminisrator finds that the fuel system incorporates features which provide equivalent saftey.

§ 41.152 Induction system ice prevention.

Means for preventing the malfunctioning of each engine due to ice accumulation in the engine air induction system shall be provided for all airplanes.

§ 41.153 Carriage of cargo in passenger compartments.

When operating conditions require the carriage of cargo which cannot be loaded in approved cargo racks, bins, or compartments which are separate from passenger compartments, such cargo may be carried in a passenger compartment if the following requirements are complied with: *Provided,* That the Administrator, under a particular set of circumstances, may authorize deviations from these requirements when he finds that safety will not be adversely affected and that it is in the public interest to carry such cargo:

(a) It shall be packaged or covered to prevent injury to passengers.

(b) It shall be properly secured in the airplane by means of safety belts or other tie-downs possessing sufficient strength to eliminate possibility of shifting under all normally anticipated flight and ground conditions.

(c) It shall not be carried aft of or directly above seated passengers.

(d) It shall not impose any loads on seats or on the floor structure which exceed the designed loads for those components.

(e) It shall not be placed in any position which restricts the access to or use of any required emergency or regular exit or the use of the aisle between the crew and the passenger compartments.

§ 41.154 Carriage of cargo in cargo compartments.

When cargo is carried in compartments which are so designed as to require the physical entry of a crew member to extinguish any fire which may occur during flight, the cargo shall be so loaded as to permit ready access in flight to any part of the compartment.

INSTRUMENTS AND EQUIPMENT FOR ALL OPERATIONS

§ 41.170 Airplane instruments and equipment for all operations.

(a) Instruments and equipment required by §§ 41.171 to 41.233 shall be approved and shall be installed in accordance with the provisions of the airworthiness requirements applicable to the instruments or equipment concerned.

(b) All air-speed indicators shall be calibrated in knots, and all air-speed limitations and related information contained in the Airplane Flight Manual and pertinent placards shall be expressed in knots.

(c) The following instruments and equipment shall be in operable condition prior to take-off, except as provided in § 41.391 (b) for continuance of flight with equipment inoperative:

(1) Instruments and equipment required to comply with airworthiness requirements under which the airplane is type certificated and as required by the provisions of § 41.110 and §§ 41.150 to 41.153; and

(2) Instruments and equipment specified in §§ 41.171 to 41.178 for all operations, and the instruments and equipment specified in §§ 41.200 to 41.233 for the type of operation indicated, wherever these items are not already provided in accordance with subparagraph (1) of this paragraph.

§ 41.171 Flight and navigational equipment for all operations.

The following flight and navigational instruments and equipment are required for all operations:

(a) An air-speed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to icing:

(b) Sensitive altimeter;

(c) Clock (sweep-second);

(d) Free-air temperature indicator;

(e) Gyroscopic bank and pitch indicator (artificial horizon);

(f) Gyroscopic rate-of-turn indicator combined with a slip-skid indicator (turn and bank indicator);
(g) Gyroscopic direction indicator (directional gyro or equivalent);
(h) Magnetic compass; and
(i) Vertical speed indicator (rate-of-climb indicator).

§ 41.172 Engine instruments for all operations.

The following engine instruments are required for all operations, except that the Administrator may permit or require different instrumentation for turbine-powered airplanes to provide equivalent safety:
(a) Carburetor air temperature indicator for each engine;
(b) Cylinder head temperature indicator for each air-cooled engine;
(c) Fuel pressure indicator for each engine;
(d) Fuel flowmeter or fuel mixture indicator for each engine;
(e) Means for indicating fuel quantity in each fuel tank to be used;
(f) Manifold pressure indicator for each engine;
(g) Oil pressure indicator for each engine;
(h) Oil quantity indicator for each oil tank when a transfer or separate oil reserve supply is used;
(i) Oil-in temperature indicator for each engine;
(j) Tachometer for each engine;
(k) An independent fuel pressure warning device for each engine or a master warning device for all engines with means for isolating the individual warning circuits from the master warning device; and
(l) A means shall be provided for each reversible propeller on airplanes equipped with reversible propellers, which will indicate to the pilots when the propeller is in reverse pitch. Such means may be actuated at any point in the reversing cycle between the normal low pitch stop position and full reverse pitch. No indication shall be given at or above the normal low pitch stop position. The source of indication shall be actuated by the propeller blade angle or be directly responsive to the propeller blade angle.

§ 41.173 Emergency equipment for all operations.

(a) *General.* The emergency equipment specified in paragraphs (b), (c), and (d) of this section is required for all operations. Such equipment shall be readily accessible to the crew, and the method of operation shall be plainly indicated. When such equipment is carried in compartments or containers, the compartments or containers shall be so marked as to be readily identifiable.
(b) *Hand fire extinguishers for crew, passenger, and cargo compartments.* Hand fire extinguishers of an approved type shall be provided for use in crew, passenger, and cargo compartments in accordance with the following requirements:
(1) The type and quantity of extinguishing agent shall be suitable for the type of fires likely to occur in the compartment where the extinguisher is intended to be used.
(2) At least one hand fire extinguisher shall be provided and conveniently located on the flight deck for use by the flight crew.
(3) At least one hand fire extinguisher shall be conveniently located in the passenger compartment of airplanes accommodating more than 6 but less than 31 passengers. On airplanes accommodating more than 30 but less than 61 passengers, at least two fire extinguishers shall be provided. On airplanes accommodating more than 60 passengers, at least three fire extinguishers shall be provided. None need be provided in passenger compartments of airplanes accommodating 6 or less persons.
(c) *First-aid equipment.* First-aid equipment suitable for treatment of injuries likely to occur in flight or in minor accidents shall be provided in a quantity appropriate to the number of passengers and crew accommodated in the airplane.
(d) *Crash ax.* All airplanes shall be equipped with at least one crash ax.
(e) *Means for emergency evacuation.* On all passenger-carrying airplanes, at all emergency exits which are more than 6 feet from the ground with the airplane on the ground and with the landing gear extended, means shall be provided to assist the occupants in descending from the airplane. At floor level exits approved as emergency exits, such means shall be a chute or equivalent device suitable for the rapid evacuation of passengers. During flight time this means shall be in a position for ready use: *Provided,* That the requirements of this paragraph do not apply to emergency exits over the wing where the greatest distance from the lower sill of the exit to the wing surface does not exceed 36 inches.
(f) *Interior emergency exit markings.* (1) In all passenger-carrying airplanes, all passenger emergency exits, their means of access, and their means of opening shall be marked conspicuously. The idenity and location of emergency exits shall be recognizable from a distance equal to the width of the cabin. The location of the emergency exit operating handle and the instructions for opening shall be marked on or adjacent to the emergency exit and shall be readable from a distance of 30 inches by a person with normal eyesight.
(2) In all passenger-carrying airplanes for night operations, a source or sources of light, with an energy supply independent of the main lighting system, shall be installed to illuminate all passenger emergency exit markings. Such lights shall be designed to function automatically in a crash landing and to continue to function thereafter and shall also be operable manually, or shall be designed only for manual operation and also to continue to function following a crash landing. When such lights require manual operation to function, they shall be turned on prior to each night take-off and landing.

§ 41.174 Seats and safety belts for all occupants.

A seat and an individual safety belt are required for each passenger and crew member, excluding infants, who are in other than a recumbent position during take-off and landing. One safety belt only is required in a berth for one or two persons in a recumbent position during take-off and landing. During flight between take-off and landing, one safety belt is sufficient for two persons occupying a multiple lounge or divan seat.

§ 41.175 Miscellaneous equipment for all operations.

All airplanes shall have installed the following equipment:
(a) If protective fuses are used, spare fuses of a number approved for the particular airplane and appropriately described in the air carrier manual.
(b) Windshield wiper or equivalent for each pilot station.
(c) A power supply and distribution system capable of producing and distributing the load for all required instruments and equipment using an external power supply in the event of failure of any one power source or component of the power distribution system: *Provided,* That the Administrator may authorize the use of common elements in the power distribution system when he finds that such elements are so designed as to be reasonably protected against malfunctioning. Engine-driven sources of energy, when used, shall be on separate engines.
(d) Means for indicating the adequacy of the power being supplied to required flight instruments.
(e) Two independent static pressure systems, so vented to the outside atmospheric pressure that they will be least affected by air flow variation, moisture, or other foreign matter, and so installed as to be airtight except for the vent. When a means is provided for transferring an instrument from its primary operating system to an alternate system, such means shall include a positive positioning control and shall be marked to indicate clearly which system is being used.
(f) Means for locking all companionway doors which separate passenger compartments from flight crew compartments. Keys for all doors which separate passenger compartments from other compartments having emergency exit provisions shall be readily available to all crew members. Any door which is the means of access to a required passenger emergency exit shall be placarded to indicate that it must be open during take-off and landing. All doors which lead to compartments normally accessible to passengers and which are capable of being locked by passengers shall be provided with means for unlocking by the crew in the event of an emergency.
(g) For seaplanes only, anchor light or lights, a warning bell for signaling when not under way during fog conditions, and an anchor adequate for the size of the seaplane.

§ 41.176 Cockpit check procedure.

The air carrier shall provide for each type of airplane a cockpit check procedure. This procedure shall include all items necessary for flight crew members to check for safety prior to starting engines, prior to taking off, prior to landing, and in engine emergencies. It shall be so designed as to obviate the necessity

for a flight crew member to rely upon his memory for items to be checked and shall be readily usable in the cockpit of each airplane.

§ 41.177 Passenger information for all operations.

All airplanes shall be equipped with signs visible to passengers and cabin attendants to notify such persons when smoking is prohibited and when safety belts should be fastened. These signs shall be capable of on-off operation by the crew and shall be placed in the "on position" for all take-offs and landings, when on the ground or water and when otherwise deemed necessary by the pilot in command.

§ 41.178 Exterior exit and evacuation markings for all operations.

Exterior surfaces of the airplane shall be marked to identify clearly all required emergency exits. When such exits are operable from the outside, markings shall consist of or include information indicating the method of opening.

INSTRUMENTS AND EQUIPMENT FOR SPECIAL OPERATIONS

§ 41.200 Instruments and equipment for operations at night.

Each airplane operated at night shall be equipped with the following instruments and equipment in addition to those required by §§ 41.171 through 41.178:

(a) Position lights;

(b) An anti-collision light for airplanes having a maximum certificated weight of more than 12,500 pounds;

(c) Two landing lights;

(d) Two class 1 or class 1A landing flares for extended overwater operations;

(e) Instrument lights providing sufficient illumination to make all required instruments, switches, etc., easily readable, so installed that their direct rays are shielded from the flight crew members' eyes and that no objectionable reflections are visible to them. A means of controlling the intensity of illumination shall be provided unless it is shown that nondimming instrument lights are satisfactory;

(f) An air-speed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to icing; and

(g) A sensitive altimeter.

§ 41.201 Instruments and equipment for operations under IFR or over-the-top.

Each airplane operated under IFR or over-the-top shall be equipped with the following instruments and equipment in addition to those required by §§ 41.171 through 41.178:

(a) An air-speed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to icing;

(b) A sensitive altimeter; and

(c) Instrument lights providing sufficient illumination to make all required instruments, switches, etc., easily readable, so installed that their direct rays are shielded from the flight crew members' eyes and that no objectionable reflections are visible to them. A means of controlling the intensity of illumination shall be provided unless it is shown that nondimming instrument lights are satisfactory.

§ 41.202 Supplemental oxygen; reciprocating-engine-powered airplanes.

(a) *General.* Except where supplemental oxygen is provided in accordance with the requirements of § 41.203, supplemental oxygen shall be furnished and used as set forth in paragraphs (b) and (c) of this section. The amount of supplemental oxygen required for a particular operation to comply with the rules in this part shall be determined on the basis of flight altitudes and flight duration consistent with the operating procedures established for each such operation and route. As used in the oxygen requirements hereinafter set forth, "altitude" shall mean the pressure altitude corresponding with the pressure in the cabin of the airplane, and "flight altitude" shall mean the altitude above sea level at which the airplane is operated.

(b) *Crew members.* (1) At altitudes above 10,000 feet to and including 12,000 feet, oxygen shall be provided for, and used by, each member of the flight crew on flight deck duty, and provided for all other crew members, during the portion of the flight in excess of 30 minutes within this range of altitudes.

(2) At altitudes above 12,000 feet, oxygen shall be provided for, and used by, each member of the flight crew on flight deck duty, and provided for all other crew members, during the entire flight time at such altitudes.

(c) *Passengers.* Each air carrier shall provide a supply of oxygen for passenger safety as approved by the Administrator in accordance with the following standards:

(1) For flights of over 30-minutes duration at altitudes above 8,000 feet to and including 14,000 feet, a supply of oxygen sufficent to furnish oxygen for 30 minutes to 10 percent of the number of passengers carried shall be required.

(2) For flights at altitudes above 14,000 feet to and including 15,000 feet, a supply of oxygen sufficient to provide oxygen for the duration of the flight at such altitudes for 30 percent of the number of passengers carried shall generally be considered adequate.

(3) For flights at altitudes above 15,000 feet, a supply of oxygen sufficient to provide oxygen for each passenger carried during the entire flight at such altitudes shall be required.

§ 41.202–T Supplemental oxygen for sustenance; turbine-powered airplanes.

(a) *General.* Prior to July 31, 1959, turbine-powered airplanes shall comply with the provisions of § 41.202 or, alternatively, with the provisions of this section except that effective July 31, 1959, all turbine-powered airplanes shall comply with the provisions of this section. Sustaining oxygen and dispensing equipment shall be furnished by the air carrier for use as set forth in this section. The amount of oxygen provided shall be at least that quantity which will be necessary to comply with paragraphs (b) and (c) of this section. As used in the oxygen requirements hereinafter set forth, "cabin pressure altitude" shall mean the pressure altitude corresponding with the pressure in the cabin of the airplane, and "flight altitude" shall mean the altitude above sea level at which the airplane is operated; for airplanes not equipped with pressurized cabins, "cabin pressure altitude" and "flight altitude" shall be considered identical. The amount of sustaining and first-aid oxygen required for a particular operation to comply with the rules in this part shall be determined on the basis of cabin pressure altitudes and flight duration consistent with the operating procedures established for each such operation and route. The requirements for airplanes with pressurized cabins shall be determined on the basis of cabin pressure altitude and the assumption that a cabin pressurization failure will occur at that altitude or point of flight which is most critical from the standpoint of oxygen need, and that after such failure the airplane will descend in accordance with the emergency procedures specified in the Airplane Flight Manual without exceeding its operating limitations to a flight altitude that will permit successful termination of the flight. Following such a failure the cabin pressure altitude shall be considered to be the same as the flight altitude unless it can be shown that no probable failure of the cabin or pressurization equipment will result in a cabin pressure altitude equal to the flight altitude, under which circumstances the maximum cabin pressure altitude attained may be used as a basis for certification and/or determination of oxygen supply.

(b) *Crew members.* A supply of oxygen for crew members shall be provided in accordance with the following requirements:

(1) At cabin pressure altitudes above 10,000 feet to and including 12,000 feet, oxygen shall be provided for and used by each member of the flight crew on flight deck duty and provided for all other crew members during the portion of the flight in excess of 30 minutes within this range of altitudes.

(2) At cabin pressure altitudes above 12,000 feet, oxygen shall be provided for and used by each member of the flight crew on flight deck duty and provided for all other crew members during the entire flight at such altitudes.

(c) *Passengers.* A supply of oxygen for passengers shall be provided in accordance with the following requirements:

(1) For flights at cabin pressure altitudes above 10,000 feet to and including 14,000 feet, oxygen shall be provided for the duration of flight in excess of 30 minutes for 10 percent of the number of passengers carried.

(2) For flights at cabin pressure altitudes above 14,000 feet to and including 15,000 feet, oxygen shall be provided for the duration of flight at such altitude for 30 percent of the number of passengers carried.

(3) For flights at cabin pressure altitudes above 15,000 feet, oxygen shall be

provided for each occupant carried for the duration of flight at such altitude.

§ 41.203 Supplemental oxygen requirements for pressurized cabin airplanes; reciprocating-engine-powered airplanes.

When operating pressurized cabin airplanes, the air carrier shall so equip such airplanes as to permit compliance with the following requirements in the event of cabin pressurization failure:

(a) *For crew members.* When operating such airplanes at flight altitudes above 10,000 feet, the air carrier shall provide sufficient oxygen for all crew members for the duration of the flight at such altitudes: *Provided,* That not less than a 2-hour supply of oxygen shall be provided for the flight crew members on flight deck duty. The oxygen supply required by § 41.205 may be considered in determining the supplemental breathing supply required for flight crew members on flight deck duty in the event of cabin pressurization failure.

(b) *For passengers.* When operating such airplanes at flight altitudes above 8,000 feet, the air carrier shall provide the following amounts of oxygen:

(1) When an airplane is not flown at a flight altitude of over 25,000 feet, a supply of oxygen sufficient to furnish oxygen for 30 minutes to 10 percent of the number of passengers carried shall be considered adequate, if at any point along the route to be flown the airplane can safely descend to a flight altitude of 14,000 feet or less within 4 minutes.

(2) In the event that such airplane cannot descend to a flight altitude of 14,000 feet or less within 4 minutes, the following supply of oxygen shall be provided:

(i) For the duration of the flight in excess of 4 minutes at flight altitudes above 15,000 feet, a supply sufficient to comply with § 41.202 (c) (3);

(ii) For the duration of the flight at flight altitudes above 14,000 feet to and including 15,000 feet, a supply sufficient to comply with § 41.202 (c) (2); and

(iii) For flight at flight altitudes above 8,000 feet to and including 14,000 feet, a supply sufficient to furnish oxygen for 30 minutes to 10 percent of the number of passengers carried.

(3) When an airplane is flown at a flight altitude above 25,000 feet, sufficient oxygen shall be furnished in accordance with the following requirements to permit the airplane to descend to an appropriate flight altitude at which the flight can be safely conducted. Sufficient oxygen shall be furnished to provide oxygen for 30 minutes to 10 percent of the number of passengers carried for the duration of the flight above 8,000 feet to and including 14,000 feet and to permit compliance with § 41.202 (c) (2) and (c) (3) for flight above 14,000 feet.

(c) For purposes of this section it shall be assumed that the cabin pressurization failure will occur at a time during flight which is critical from the standpoint of oxygen need and that after such failure the airplane will descend, without exceeding its normal operating limitations, to flight altitudes permtting safe flight with respect to terrain clearance.

§ 41.203–T Supplemental oxygen for emergency descent and for first aid; turbine-powered airplanes with pressurized cabins.

(a) *General.* Prior to July 31, 1959, turbine-powered airplanes with pressurized cabins shall comply with the provisions of § 41.203 or, alternatively, with the provisions of this section except that effective July 31, 1959, all such turbine-powered airplanes shall comply with the provisions of this section. When operating pressurized cabin airplanes, the air carrier shall furnish oxygen and dispensing equipment necessary to permit compliance with the requirements set forth in this section in the event of cabin pressurization failure.

(b) *Crew members.* When operating at flight altitudes above 10,000 feet, oxygen shall be provided to permit compliance with § 41.202–T except that not less than a 2-hour supply shall be provided for the flight crew members on flight deck duty. The oxygen required by § 40.205 may be included in determining the supply required for flight crew members on flight deck duty in the event of cabin pressurization failure.

(c) *Use of oxygen masks by flight crew members.* When operating at flight altitudes above 25,000 feet, one pilot at the controls of the airplane shall wear and use an oxygen mask at all times and all other flight crew members on flight deck duty shall be provided with oxygen masks, connected to appropriate supply terminals, which shall be worn in a manner that will permit immediate placing of the masks on their faces for use, properly secured and sealed.

(d) *Use of portable oxygen equipment by cabin attendants.* Portable oxygen equipment of not less than a 15-minute oxygen supply shall be carried by each attendant during the entire time flight is conducted above 25,000 feet flight altitude, unless it is shown that sufficient portable oxygen units equipped with masks or spare outlets and masks are distributed throughout the cabin to insure immediate availability of oxygen to the cabin attendants regardless of their location at the time of cabin depressurization.

(e) *Passenger cabin occupants.* When operating at flight altitudes above 10,000 feet, the following supply of oxygen shall be provided for the use of passenger cabin occupants:

(1) When an airplane is certificated to operate at flight altitudes to and including 25,000 feet, and if at any point along the route to be flown the airplane can descend safely to a flight altitude of 14,000 feet or less within 4 minutes, oxygen shall be available at the rate prescribed by this part for a 30-minute period for not less than 10 percent of the number of passenger cabin occupants carried.

(2) When an airplane is operated at flight altitudes to and including 25,000 feet and cannot descend safely to a flight altitude of 14,000 feet within 4 minutes, or when an airplane is operated at flight altitudes above 25,000 feet, oxygen shall be available at the rate prescribed by this part for not less than 10 percent of the number of passenger cabin occupants carried for the duration of flight following cabin depressurization at cabin pressure altitudes above 10,000 feet to and including 14,000 feet and, as applicable, to permit compliance with § 41.202–T (c) (2) and (3), except that not less than a 10-minute supply for all passenger cabin occupants shall be provided.

(3) For first-aid treatment of occupants who for physiological reasons might require undiluted oxygen following descent from cabin pressure altitudes above 25,000 feet, a supply of oxygen in accordance with the requirements of § 4b.651 (b) (4) (see § 41.204) shall be provided for 2 percent of the occupants for the duration of flight following cabin depressurization at cabin pressure altitudes above 8,000 feet, but in no case to less than one person. An appropriate number of acceptable dispensing units, but in no case less than 2, shall be provided. Means shall be provided to enable the cabin attendants to use this supply.

(f) *Passenger briefing.* Before flight is conducted above 25,000 feet, a crew member shall give instructions and demonstrations to the passengers sufficient to insure that all passengers are adequately informed regarding the location and operation of the oxygen-dispensing equipment and the necessity of using oxygen in the event of cabin depressurization.

§ 41.204 Equipment standards.

(a) *Reciprocating-engine-powered airplanes.* The oxygen apparatus, the minimum rates of oxygen flow, and the supply of oxygen necessary to comply with the requirements of § 41.202 shall meet the standards established in § 4b.651 of this subchapter effective July 20, 1950: *Provided,* That where full compliance with such standards is found by the Administrator to be impracticable, he may authorize such changes in these standards as he finds will provide an equivalent level of safety.

(b) *Turbine-powered airplanes.* Prior to July 31, 1959, turbine-powered airplanes shall comply with the provisions of paragraph (a) of this section or, alternatively, with the provisions of this paragraph except that effective July 31, 1959, all turbine-powered airplanes shall comply with the provisions of this paragraph. The oxygen apparatus, the minimum rate of oxygen flow, and the supply of oxygen to comply with the requirements of §§ 41.202–T and 41.203–T shall meet the standards established in § 4b.651 of this subchapter effective September 1, 1958; *Provided,* That where full compliance with such standards is found by the Administrator to be impracticable, he may authorize such changes in these standards as he finds will provide an equivalent level of safety.

§ 41.205 Protective breathing equipment for the flight crew.

(a) *Pressurized cabin airplanes.* Each required flight crew member on flight deck duty shall have easily available at his station protective breathing equipment covering the eyes, nose, and mouth, or the nose and mouth where accessory equipment is provided to protect the eyes, to protect him from the effects of smoke, carbon dioxide, and other harmful gases. Not less than a 300-liter

STPD supply of oxygen for each required flight crew member on flight deck duty shall be provided for this purpose.

(b) *Nonpressurized cabin airplanes.* The requirement stated in paragraph (a) of this section shall apply to nonpressurized cabin airplanes if the Administrator finds that it is possible to obtain a dangerous concentration of smoke, carbon dioxide, or other harmful gases in the flight crew compartments in any attitude of flight which might occur when the airplane is flown in accordance with either the normal or emergency procedures approved by the Administrator.

§ 41.206 Equipment for overwater operations.

(a) The following equipment shall be required for all extended overwater operations: *Provided,* That the Administrator, after appropriate investigation, may require the carriage of all of the prescribed equipment, or any item thereof, for any operation over water, or upon application of an air carrier, permit deviation from these requirements for a particular extended overwater operation:

(1) Life vest or other adequate individual flotation device for each occupant of the airplane;

(2) Life rafts sufficient in number and of such rated capacity and buoyancy as to accommodate all occupants of the airplane;

(3) Suitable pyrotechnic signaling devices; and

(4) One portable emergency radio signaling device, capable of transmission on the appropriate emergency frequency or frequencies, which is not dependent upon the airplane power supply and which is self-buoyant and water-resistant.

(b) All required life rafts, life vests, and signaling devices shall be easily accessible in the event of a ditching without appreciable time for preparatory procedures. This equipment shall be installed in conspicuously marked approved locations.

(c) A survival kit, appropriately equipped for the route to be flown, shall be attached to each required life raft.

§ 41.207 Equipment for operations in icing conditions.

(a) For all operations in icing conditions each airplane shall be equipped with means for the prevention or removal of ice on windshields, wings, empannage, propellers, and other parts of the airplane where ice formation will adversely affect the safety of the airplane.

(b) For operations in icing conditions at night means shall be provided for illuminating or otherwise determining the formation of ice on the portions of the wings which are critical from the standpoint of ice accumulation. When illuminating means are used, such means shall be of a type which will not cause glare or reflection which would handicap crew members in the performance of their normal functions.

§ 41.208 Equipment for operations over uninhabited terrain.

The following equipment shall be required for operations over regions where the Administrator has determined that search and rescue would be especially difficult in the event of an emergency:

(a) Suitable pyrotechnic signaling devices;

(b) One portable emergency radio signaling device, capable of transmission on the appropriate emergency frequency or frequencies, which is not dependent upon the airplane power supply and which is self-buoyant and water-resistant; and

(c) Sufficient survival kits, adequately equipped for the route to be flown, for the number of occupants of the airplane.

§ 41.209 Equipment for operations on which specialized means of navigation are required.

The air carrier shall provide such airborne equipment as is necessary to permit navigation to be accomplished by the specialized method authorized for the particular route to be operated.

§ 41.210 Flight recorders.

A flight recorder which records time, air speed, altitude, vertical acceleration, and heading shall be installed on all airplanes of more than 12,500 pounds maximum certificated take-off weight which are certificated for operations above 25,000 feet altitude, and shall be operating continuously during flight time.

Radio Equipment

§ 41.230 Radio equipment.

Each airplane shall be equipped with radio equipment specified for the type of operation in which it is engaged. Where two independent radio systems are required by §§ 41.231 and 41.232, each system shall have an independent antenna installation: *Provided,* That where rigidly supported nonwire antennas or other antenna installations of equivalent reliability are used, only one such antenna need be provided.

§ 41.231 Radio equipment for operations under VFR over routes navigated by pilotage.

(a) For operations conducted under VFR over routes on which navigation can be accomplished by pilotage, each airplane shall be equipped with such radio equipment as is necessary under normal operating conditions to fulfill the following functions:

(1) Communicate with at least one appropriate ground station (as specified in § 41.34) from any point on the route and with other airplanes operated by the air carrier on the route;

(2) Communicate with appropriate traffic control facilities from any point in the control zone within which flights are intended; and

(3) Receive meteorological information from any point en route by either of two independent systems.

(b) For all operations at night conducted under VFR over routes on which navigation can be accomplished by pilotage, each airplane shall be equipped with such radio equipment as is necessary under normal operating conditions to fulfill the functions specified in paragraph (a) of this section and to receive radio navigational signals applicable to the route flown except that no marker beacon receiver or ILS receiver need be provided.

§ 41.232 Radio equipment for operations under VFR over routes not navigated by pilotage or for operations under IFR or over-the-top.

(a) For operations conducted under VFR over routes on which navigation cannot be accomplished by pilotage or for operations conducted under IFR or over-the-top each airplane shall be equipped with such radio equipment as is necessary under normal operating conditions to fulfill the functions specified in § 41.231 (a) and to receive satisfactorily by either of two independent systems, radio navigational signals from all primary en route and approach navigational facilities intended to be used, except that only one marker beacon receiver which provides visual and aural signals and one ILS receiver need be provided. Equipment provided to receive signals en route may be used to receive signals on approach, if it is capable of receiving both signals.

(b) In the case of operation on routes using procedures based on automatic direction finding, only one automatic direction finding system need be installed: *Provided,* That ground facilities are so located and the airplane is so fueled that, in case of failure of the automatic direction finding equipment, the flight may proceed safely to a suitable airport which has ground radio navigational facilities whose signals may be received by the use of the remaining airplane radio systems.

(c) In those areas where there is in progress transition from low frequency to very high frequency radio navigational systems, one means of satisfactorily receiving signals over each of these systems shall be considered as complying with the requirement that two independent systems be provided to receive en route or approach navigational facility signals: *Provided,* That ground facilities are so located and the airplane is so fueled that, in case of failure of either system, the flight may proceed safely to a suitable airport which has ground radio navigational facilities whose signals may be received by use of the remaining airplane radio system.

§ 41.233 Radio equipment for extended overwater operations or for operations over uninhabited terrain.

For extended overwater operations or for operations over regions which the Administrator has determined would be especially difficult for search and rescue operations, each airplane shall be equipped with such radio equipment as is necessary to fulfill the functions specified in § 41.232 and additionally by an independent system to fulfill the functions specified in § 41.231 (a) (1).

Maintenance and Inspection Requirements

§ 41.240 Responsibility for maintenance.

Irrespective of whether the air carrier has made arrangements with any other person for the performance of maintenance and inspection functions, each air carrier shall have the primary responsi-

bility for the airworthiness of its airplanes and required equipment.

§ 41.241 Maintenance and inspection requirements.

(a) The air carrier, or the person with whom arrangements have been made for the performance of maintenance and inspection functions, shall establish an adequate inspection organization responsible for determining that workmanship, methods employed, and materials used are in conformity with the requirements of the regulations of this subchapter, with accepted standards and good practices, and that any airframe, engine, propeller, or appliance released for flight is airworthy.

(b) Any individual who is directly in charge of inspection, maintenance, overhaul, or repair of any airframe, engine, propeller, or appliance shall hold an appropriate license or airman certificate.

§ 41.242 Maintenance and inspection training program.

The air carrier, or the person with whom arrangements have been made for the performance of maintenance and inspection functions, shall establish and maintain a training program to insure that all maintenance and inspection personnel charged with supervision and inspection of work performed are fully informed with respect to all procedures and techniques and with new equipment introduced into service, and are competent to perform their duties.

AIRMAN AND CREW MEMBER REQUIREMENTS

§ 41.260 Utilization of airman.

No air carrier shall utilize an individual as as an airman unless he holds a valid appropriate airman certificate issued by the Administrator and is otherwise qualified for the particular operation in which he is to be utilized.

§ 41.261 Composition of flight crew.

(a) No air carrier shall operate an airplane with less than the minimum flight crew specified in the airworthiness certificate for the type of airplane and required in this part for the type of operation.

(b) Where the provisions of this part require the performance of two or more functions for which an airman certificate is necessary, such requirement shall not be satisfied by the performance of multiple functions at the same time by any airman.

(c) Where the air carrier is authorized to operate under instrument conditions or operates airplanes of more than 12,500 pounds maximum certificated weight, the minimum pilot crew shall be 2 pilots.

(d) On flights requiring a flight navigator, flight engineer, or flight radio operator, at least one other flight crew member shall be sufficiently qualified, so that in the event of illness or other incapacity, emergency coverage can be provided for those functions for the safe completion of the flight. An airman need not be additionally certificated to function in another ariman's capacity for such emergency coverage.

§ 41.262 Flight navigator.

An airman holding a valid flight navigator certificate shall be required for flight over any area, route, or route segment over which the Administrator has determined that navigation cannot be adequately accomplished from the pilot station.

§ 41.263 Flight engineer.

An airman holding a valid flight engineer certificate shall be required on all airplanes certificated for more than 80,000 pounds maximum certificated take-off weight. Such airman shall also be required on all four-engine airplanes certificated for more than 30,000 pounds maximum certificated take-off weight where the Administrator finds that the design of the airplane used or the type of operation is such as to require engineer personnel for the safe operation of the airplane.

§ 41.264 Flight radio operator.

An airman holding a valid flight radio operator certificate shall be required for flight over any area, route, or route segment over which the Administrator has determined that radiotelegraphy is necessary for communication with ground stations during flight.

§ 41.265 Flight attendant.

At least one flight attendant shall be provided by the air carrier on all flights carrying passengers in airplanes of 10-passenger capacity or more. In airplanes of 45-passenger capacity or more an additional flight attendant may be required by the Administrator if found necessary due to the type of operation, services rendered, or the interior configuration of the airplane.

§ 41.266 Aircraft dispatcher.

Each air carrier shall provide an adequate number of qualified dispatchers at each dispatch center to insure the proper operational control of each flight.

§ 41.267 Assignment of emergency evacuation functions for each crew member.

Each air carrier shall assign all necessary emergency functions for each crew member to perform in the event of circumstances requiring emergency evacuation. The air carrier shall show that functions so assigned are practicable of accomplishment. These functions shall be described in the air carrier manual.

TRAINING PROGRAM

§ 41.280 Training requirements.

(a) Each air carrier shall establish a training program sufficient to insure that each crew member and dispatcher used by the air carrier is adequately trained to perform the duties to which he is to be assigned. The initial training phases shall be satisfactorily completed prior to serving in scheduled operations.

(b) Each air carrier shall be responsible for providing adequate ground and flight training facilities and properly qualified instructors. There also shall be provided a sufficient number of check airmen to conduct the flight checks required by this part. Such check airmen shall hold the same airman certificates and ratings as are required for the airman being checked.

(c) The training program for each flight crew member shall consist of appropriate ground and flight training including proper flight crew coordination. Procedures for each flight crew function shall be standardized to the extent that each flight crew member will know the functions for which he is responsible and the relation of those functions to those of other flight crew members. The initial program shall include at least the appropriate requirements specified in §§ 41.281 through 41.286.

(d) The crew member emergency procedures training program shall include at least the requirements specified in § 41.286.

(e) The appropriate instructor, supervisor, or check airman responsible for the particular training or flight check shall certify to the proficiency of each crew member and dispatcher upon completion of his training, and such certification shall become a part of the individual's record.

§ 41.281 Pilot ground training.

(a) Ground training for each pilot prior to serving as a required flight crew member shall include instruction in at least the following:

(1) The appropriate provisions of the air carrier operations specifications and appropriate provisions of the regulations of this subchapter with particular emphasis on the operation and dispatching rules and airplane operating limitations;

(2) Dispatch procedures and appropriate contents of the manuals;

(3) The duties and responsiblities of crew members;

(4) The type of airplane to be flown, including a study of the airplane, engines, all major components and systems, performance limitations, standard and emergency operating procedures, and appropriate contents of the approved Airplane Flight Manual;

(5) The principles and methods of determining weight and balance limitations for take-off and landing;

(6) Navigation and use of appropriate aids to navigation, including the instrument approach facilities and procedures which the air carrier is authorized to use;

(7) Airport and airways traffic control systems and procedures, and ground control letdown procedures if pertinent to the operation;

(8) Meteorology sufficient to insure a practical knowledge of the principles of icing, fog, thunderstorms, and frontal systems;

(9) Procedures for operation in turbulent air and during periods of ice, hail, thunderstorms, and other potentially hazardous meteorological conditions; and

(10) Communications procedures including procedures to be used in the event any of the communications equip-

ment required by this part becomes inoperative.

(b) Such additional training as is necessary to insure qualification with respect to any new equipment, procedures, or techniques. At least once each 12 months such recurrent training as is necessary to insure the continued competence of each pilot with respect to procedures, techniques, and information essential to the satisfactory performance of his duties.

§ 41.282 Pilot flight training.

(a) Flight training for each pilot prior to serving as a required flight crew member shall include at least take-offs and landings, during day and night, and normal and emergency flight maneuvers in each type of airplane to be flown by him in scheduled operations, and flight under simulated instrument flight conditions.

(b) Flight training for a pilot qualifying to serve as pilot in command or second in command in operations requiring three or more pilots shall include flight instruction and practice in at least the following maneuvers and procedures:

(1) In each type of airplane to be flown by him in scheduled operations:

(i) At the authorized maximum take-off weight, take-off using maximum take-off power with simulated failure of the critical engine. For transport category airplanes the simulated engine failure shall be accomplished as closely as possible to the critical engine failure speed (V_1), and climb-out shall be accomplished at a speed as close as possible to the take-off safety speed (V_2). Each pilot shall ascertain the proper values for speeds V_1 and V_2;

(ii) At the authorized maximum landing weight, flight in a four-engine airplane, where appropriate, with the most critical combinations of two engines inoperative, or operating at zero thrust, utilizing appropriate climb speeds as set forth in the Airplane Flight Manual;

(iii) At the authorized maximum landing weight, simulated pull-out from the landing and approach configurations accomplished at a safe altitude with the critical engine inoperative or operating at zero thrust;

(iv) Suitable combinations of airplane weight and power less than those specified in subdivisions (i), (ii), and (iii) of this subparagraph may be employed if the performance capabilities of the airplane under the above conditions are simulated.

(2) Conduct of flight under simulated instrument conditions, utilizing all types of navigational facilities and the letdown procedures used in normal operations. If a particular type of facility is not available in the training area, such training may be accomplished in a synthetic trainer.

(c) Such additional training as is necessary to insure qualification with respect to any new equipment, procedures, or techniques. At least once each 12 months such recurrent training as is necessary to insure the continued competence of each pilot with respect to procedures, techniques, and information essential to the satisfactory performance of his duties.

§ 41.283 Flight navigator training.

(a) The training for flight navigators shall include the applicable portions of at least subparagraphs (1) through (4), and (6) through (8) of § 41.281 (a).

(b) Prior to serving as a required flight crew member each flight navigator shall be given sufficient ground and flight training to become proficient in those duties assigned him by the air carrier. The flight training may be accomplished during scheduled flight under the supervision of a qualified flight navigator.

(c) Such additional training as is necessary to insure qualification with respect to any new equipment, procedures, or techniques. At least each 12 months such recurrent training as is necessary to insure the continued competence of each flight navigator with respect to procedures, techniques, and information essential to the satisfactory performance of his duties.

§ 41.284 Flight engineer training.

(a) The training for flight engineers shall include at least the instruction specified in § 41.281 (a) (1) through (5).

(b) Prior to serving as a required flight crew member each flight engineer shall be given sufficient training in flight to become proficient in those duties assigned him by the air carrier. Except for emergency procedures, this training may be accomplished during scheduled flight under the supervision of a qualified flight engineer.

(c) Such additional training as is necessary to insure qualification with respect to any new equipment, procedures, or techniques. At least once each 12 months such recurrent training as is necessary to insure the continued competence of each flight engineer with respect to procedures, techniques, and information essential to the satisfactory performance of his duties.

§ 41.285 Flight radio operator training.

(a) The training for flight radio operators shall include the applicable portions of at least subparagraphs (1) through (4), (6), (7), and (10) of § 41.281 (a).

(b) Prior to serving as a required flight crew member each flight radio operator shall be given sufficient ground and flight training to become proficient in those duties assigned him by the air carrier. The flight training may be accomplished during scheduled flight under the supervision of a qualified flight radio operator.

(c) Such additional training as is necessary to insure qualification with respect to any new equipment, procedures, or techniques. At least once each 12 months such recurrent training as is necessary to insure the continued competence of each flight radio operator with respect to procedures, techniques, and information essential to the satisfactory performance of his duties.

§ 41.286 Crew member emergency training.

(a) The training in emergency procedures shall be designed to give each crew member appropriate individual instruction in all emergency procedures, including assignments in the event of an emergency, and proper coordination between crew members. At least the following subjects as appropriate to the individual crew member shall be taught: The procedures to be followed in the event of the failure of an engine, or engines, or other airplane components or systems, emergency decompression, fire in the air or on the ground, ditching, evacuation, the location and operation of all emergency equipment, and power setting for maximum endurance and maximum range.

(b) Recurrent training in the emergency procedures required in section (a) shall be accomplished at intervals not to exceed 12 months. Accomplishment of such training shall be made a part of the individual's record.

(c) Synthetic trainers may be used for training of crew members in emergency procedures where the trainers sufficiently simulate flight operating emergency conditions for the equipment to be used.

§ 41.288 Aircraft dispatcher training.

(a) The training program for aircraft dispatchers shall provide for training in their duties and responsibilities and shall include a study of the flight operation procedures, air traffic control procedures, the performance of the airplanes used by the air carrier, navigational aids and facilities, and meteorology. Particular emphasis shall be placed upon the procedures to be followed in the event of emergencies, including the alerting of proper Governmental, company, and private agencies to render maximum assistance to an airplane in distress.

(b) Each aircraft dispatcher shall, prior to initially performing the duty of an aircraft dispatcher, satisfactorily demonstrate to the supervisor or ground instructor authorized to certify to his proficiency, his knowledge of the following subjects:

(1) Contents of the air carrier operating certificate;

(2) Appropriate provisions of the air carrier operations specifications, manual, and regulations of this subchapter;

(3) Characteristics of the airplanes operated by the air carrier;

(4) Cruise control data and cruising speeds for such airplanes;

(5) Maximum authorized loads for the airplanes for the routes and airports to be used;

(6) Air carrier radio facilities;

(7) Characteristics and limitations of each type of radio and navigational facility to be used;

(8) Effect of weather conditions on airplane radio reception;

(9) Airports to be used and the general terrain over which the airplanes are to be flown;

(10) Prevailing weather phenomena;

(11) Sources of weather information available;

(12) Pertinent air traffic control procedures; and

(13) Emergency procedures.

(c) The training program shall provide such additional training as is necessary to insure that each dispatcher is qualified with respect to new equipment

procedures or techniques. At least once each 12 months such recurrent training shall be provided as is necessary to insure the continued competence of each dispatcher with respect to the procedures, techniques, and information essential to his duties.

FLIGHT CREW MEMBER AND DISPATCHER QUALIFICATIONS

§ 41.300 Qualification requirements.

(a) No air carrier shall utilize any flight crew member or dispatcher, nor shall any such airman perform the duties authorized by his airman certificate, unless he satisfactorily meets the appropriate requirements of § 41.280 and §§ 41.301 through 41.310. Each pilot serving as pilot in command and each pilot serving as second in command in operations requiring three or more pilots shall hold appropriate airline transport pilot certificates and ratings. All other pilots shall hold at least commercial pilot certificates and instrument ratings.

(b) Check airmen shall certify as to the proficiency of the pilot in command being examined, as required by §§ 41.302 and 41.303, and such certification shall become a part of the airman's record.

§ 41.301 Pilot recent experience.

No air carrier shall schedule a pilot to serve as pilot in command or second in command in scheduled air transportation unless within the preceding 90 days he has made at least 3 take-offs and 3 landings in the airplane of the particular type on which he is to serve.

§ 41.302 Pilot checks.

(a) *Line check.* Prior to serving as pilot in command or second in command in operations requiring 3 or more pilots, and at least once each 12 months thereafter, a pilot shall pass a line check in one of the types of airplanes normally to be flown by him. This check shall be given by a check pilot who is qualified for the route. It shall consist of at least a scheduled flight over a typical portion of the air carrier's routes to which the pilot is normally assigned and shall be of sufficient duration for the check pilot to determine whether the individual being checked satisfactorily exercises the duties and responsibilities of a pilot in command or second in command as appropriate.

(b) *Proficiency check.* (1) An air carrier shall not utilize a pilot as pilot in command until he has satisfactorily demonstrated to a check pilot or a representative of the Administrator his ability to pilot and navigate airplanes to be flown by him. Thereafter, at least twice each 12 months at intervals of not less than 4 months or more than 8 months, a similar pilot proficiency check shall be given each such pilot.

(2) The pilot proficiency check shall include at least the following:

(i) The flight maneuvers specified in § 41.282 (b) (1), except that the simulated engine failure during take-off need not be accomplished at speed V_1, nor at actual or simulated maximum authorized weight.

(ii) Flight maneuvers approved by the Administrator accomplished under simulated instrument conditions utilizing the navigational facilities and letdown procedures normally used by the pilot: *Provided,* That maneuvers other than those associated with approach procedures for which the lowest minimums are approved may be given in a synthetic trainer which contains the radio equipment and instruments necessary to simulate other navigational and letdown procedures approved for use by the air carrier.

(3) Subsequent to the initial pilot proficiency check, a pilot in command need accomplish in flight only one of the proficiency checks required by subparagraph (1) of this paragraph during each 12 months if he satisfactorily completes within such 12 months an approved course of training in an aircraft simulator. The interval between completion of the proficiency check in flight and the simulator training course shall be not less than 4 months or more than 8 months. The air carrier shall show that the flight characteristics, performance, instrument reaction, and control loadings of the applicable airplane are accurately simulated in the aircraft simulator through all ranges of normal and emergency operations in accordance with subdivisions (i) through (vii) of this subparagraph:

(i) The simulator shall represent a full-scale mock-up of the cockpit interior, including normal flight crew stations and accommodations for the instructor or check airman.

(ii) The effect of changes on the basic forces and moments shall be introduced for all combinations of drag and thrust normally encountered in flight. The effect of changes in airplane attitude, power, drag, altitude, temperature, gross weight, center of gravity location, and configuration shall be included.

(iii) In response to control movement by a flight crew member, all instrument indications involved in the simulation of the applicable airplane shall be entirely automatic in character unless otherwise specified. The rate of change of simulator instrument readings and of control forces shall correspond to the rate of change which would occur on the applicable airplane under actual flight conditions, for any given change in the applied load on the controls, in the applied power or in aircraft configuration. Control forces and degree of actuating control travel shall correspond to that which would occur in the airplane under actual flight conditions.

(iv) Through the medium of instrument indication, it shall be possible to use the simulator for the training and checking of a pilot in the operational use of controls and instruments on the applicable airplane model during the simulated execution of ground operation, take-off, landing, normal flight, unusual attitudes, navigation problems, and instrument approach procedures. In addition, the simulator shall be designed so that malfunction of airplane engines, propellers, and primary systems may be presented and corrective action taken by the crew to cope with such emergencies.

(v) Suitable course and altitude recorders shall be included.

(vi) Communication and navigational aids of the applicable airplane shall be simulated for on-the-ground and in-flight operations.

(vii) Other airplane systems and components shall be simulated to the extent found necessary by the Administrator.

(c) Prior to serving as pilot in command, or second in command in operations requiring 3 or more pilots, in a particular type of airplane, a pilot shall have accomplished during the preceding 12 months either a proficiency check or a line check in that type of airplane.

§ 41.303 Pilot route and airport qualification requirements.

(a) An air carrier shall not utilize a pilot as pilot in command until he has been qualified for the route on which he is to serve in accordance with the provisions of this section and the appropriate instructor or check pilot has so certified.

(b) Each such pilot shall demonstrate adequate knowledge concerning the subjects listed below with respect to each route to be flown. Those portions of the demonstration pertaining to holding procedures and instrument approach procedures may be accomplished in a synthetic trainer which contains the radio equipment and instruments necessary to simulate the navigational and letdown procedures approved for use by the air carrier:

(1) Weather characteristics,
(2) Navigational facilities,
(3) Communication procedures,
(4) Type of en route terrain and obstruction hazards,
(5) Minimum safe flight levels,
(6) Position reporting points,
(7) Holding procedures,
(8) Pertinent traffic control procedures, and
(9) Congested areas, obstructions, physical layout, and all instrument approach procedures for each regular, provisional, and refueling airport approved for the routes.

(c) Each such pilot shall make an entry as a member of the flight crew at each regular, provisional, and refueling airport into which he is scheduled to fly. Such entry shall include a landing and take-off. The qualifying pilot shall occupy a seat in the pilot compartment and he shall be accompanied by a pilot who is qualified at the airport.

(d) Such pilot shall not be required to meet the entry requirements of paragraph (c) of this section when:

(1) The initial entry is made under VFR weather conditions at the particular airport involved; or

(2) The air carrier shows that the pilot airport qualification can be accomplished by an approved pictorial means; or

(3) The air carrier notifies the Administrator that it intends to conduct operations at an airport in close proximity to an airport into which the pilot involved is presently qualified by entry, and the Administrator finds that such pilot is adequately qualified at the new airport. The Administrator, in making such finding, shall take into consideration at least the familiarity of the pilot with the layout, surrounding terrain, location of obstacles, and instrument

approach and traffic control procedures at the new airport.

(e) On routes or route segments on which navigation must be accomplished by pilotage and on which flight is to be conducted at or below the level of the adjacent terrain which is within a horizontal distance of 25 miles on either side of the center line of the route to be flown, the pilot shall be familiarized with such route or route segments by not less than two one-way trips on the flight deck over the route or route segments under VFR weather conditions to permit the qualifying pilot to observe terrain along the route.

§ 41.304 Maintenance and re-establishment of pilot route and airport qualifications for particular trips.

(a) To maintain pilot route and airport qualifications, each pilot being utilized as pilot in command, within the preceding 12-month period, shall have made at least one trip on the flight deck into each airport into which he is scheduled to fly and shall have complied with the provisions of § 41.303 (e), if applicable: *Provided,* That such entry shall not be required if the air carrier shows that pilot airport qualification can be accomplished by other means approved by the Administrator.

(b) In order to re-establish pilot route and airport qualifications after absence from a route for a period in excess of 12 months, a pilot shall comply with the appropriate provisions of § 41.303.

§ 41.305 Competence check; other pilots.

Prior to serving as pilot, and at least twice each 12 months thereafter at intervals of not less than 4 months nor more than 8 months, each pilot not being utilized as pilot in command shall demonstrate that he is capable of flying by instruments. This demonstration may be made to a pilot serving as pilot in command or a check pilot of the air carrier during scheduled flight.

§ 41.306 Flight navigator qualification for duty.

A flight navigator shall not be assigned to nor perform duties for which he is required to be certificated as a flight navigator unless, within the preceding 12-month period, he has had at least 50 hours of experience as a flight navigator, or until the air carrier or an authorized representative of the Administrator has checked such flight navigator and determined that he is familiar with all essential current navigational information pertaining to the routes to be flown and is competent with respect to the operating procedures and navigational equipment to be used. This check shall include a check in flight: *Provided,* That in the case of a flight navigator who has been previously qualified as such, the check may be accomplished in a synthetic trainer in lieu of a check in flight.

§ 41.307 Flight engineer qualification for duty.

A flight engineer shall not be assigned to nor perform duties for which he is required to be certificated as a flight engineer unless, within the preceding 6-month period, he has had at least 50 hours of experience as a flight engineer on the type airplane on which he is to serve, or until the air carrier or an authorized representative of the Administrator has checked such flight engineer and determined that he is familiar with all essential current information and operating procedures relating to the type of airplane to which he is to be assigned and is competent with respect to such airplane. This check shall include a check in flight: *Provided,* That in the case of a flight engineer who has been previously qualified in the type airplane, the check may be acomplished in a synthetic trainer in lieu of a check in flight.

§ 41.308 Flight radio operator qualification for duty.

A flight radio operator shall not be assigned to nor perform duties for which he is required to be certificated as a flight radio operator unless, within the preceding 12-month period, he has had at least 50 hours of experience as a flight radio operator, or until the air carrier or an authorized representative of the Administrator has checked such flight radio operator and determined that he is familiar with all essential current radio information pertaining to the routes to be flown and is competent with respect to the operating procedures and radio equipment to be used. This check shall include a check in flight: *Provided,* That in the case of a flight radio operator who has been previously qualified as such, the check may be accomplished in a synthetic trainer in lieu of a check in flight.

§ 41.310 Aircraft dispatcher qualification for duty.

(a) Prior to dispatching airplanes over any route or route segment, an aircraft dispatcher shall be familiar, and the air carrier shall determine that he is familiar, with all essential operating procedures for the entire route and with the airplanes to be used: *Provided,* That where he is qualified only on a portion of such route, he may dispatch airplanes, but only after coordinating with dispatchers who are qualified for the other portions of the route between the points to be served.

(b) An aircraft dispatcher shall not dispatch airplanes unless within the preceding 12 months he has flown at least 8 hours on the flight deck of an airplane during scheduled operations over portions of the air carrier's routes that are typical of the routes for the area in which he is to serve. Such flights shall include entry into as many of the airports in the air carrier's operations specifications as practicable.

Flight Time Limitations

§ 41.320 Flight time limitations for aircraft having a crew of one or two pilots.

(a) A pilot may be scheduled to fly 8 hours or less during any 24 consecutive hours without a rest period during such 8 hours. If a pilot is scheduled to fly in excess of 8 hours during any 24 consecutive hours, he shall be given an intervening rest period at or before the termination of 8 scheduled-hours of flight duty. Such rest period must equal at least twice the number of hours flown since the last preceding rest period and in no case will such rest period be less than 8 hours. During such rest period the pilot must be relieved of all duty with the air carrier.

(b) When a pilot has flown in excess of 8 hours during any 24 consecutive hours he must receive at least 18 hours of rest before being assigned any duty with the air carrier.

(c) A pilot shall not fly in excess of 32 hours during any 7 consecutive days. Relief from all duty for not less than 24 consecutive hours must be provided for and given to a pilot at least once during any 7 consecutive days.

(d) A pilot shall not fly as a member of the crew more than 100 hours during any one month.

(e) A pilot shall not fly as a member of the crew more than 1,000 hours in any 12-month period.

§ 41.321 Flight time limitations for aircraft having two pilots and one additional flight crew member.

(a) A pilot may not be scheduled to fly a total of more than 12 hours during any 24 consecutive hours.

(b) When a pilot has flown 20 hours or more during any 48 consecutive hours, or 24 hours or more during any 72 consecutive hours, he must receive at least 18 hours of rest before being assigned to any duty with the air carrier. In any case each pilot shall be relieved from all duty for not less than 24 consecutive hours during any 7 consecutive days.

(c) A pilot shall not fly as a member of the flight crew more than 120 hours in any 30 consecutive days or 300 hours in any 90 consecutive days.

(d) A pilot shall not fly as a member of the flight crew more than 1,000 hours in any 12-month period.

NOTE: Interpretation 1, 14 F. R. 1409, March 30, 1949, provides as follows:

Minimum crew complement; flight radio operators. We have been asked for an interpretation of the effect of Civil Air Regulations Amendment 41–1, dated October 5, 1948, on the minimum number of flight radio operators required on a scheduled flight of over 12 hours from airport to airport, where radiotelegraphy is necessary for communication with ground stations over a route segment of the flight which is less than 12 hours in length.

Section 41.70 (41.326) of the Civil Air Regulations provides that, "when one flight radio operator is required the flight-time limitations prescribed in § 41.55 (41.321) apply. When two or more flight radio operators are required, the flight-time limitations of § 41.56 (41.322) apply." Section 41.55 (41.321) states that where a crew consists of two pilots and an additional flight crew member, a "pilot may not be scheduled to fly more than 12 hours during any 24 consecutive hours." Since aircraft with which the regulation is concerned require two pilots at the controls at practically all times, the phrase "scheduled to fly" as used in this section does not necessitate precise definition with respect to the flight time of pilots since they are on duty throughout the flight. However, the expression is ambiguous when applied to radio operators whose duty watch, from a safety standpoint, need not in all instances be continuous from airport to airport while the aircraft is in the

air. As applied to such airmen the term "to fly" when used as part of the phrase "scheduled to fly," may be interpreted in two possible ways—it may mean the entire time the aircraft is in the air, or it may mean the time the radio operator is on flight duty on the aircraft.

In dealing with this problem it is necessary to bear in mind that the Board's power over maximum hours of service of airmen derives from section 601 (a) of the Civil Aeronautics Act and relates solely to promoting safety of flight in air commerce. It is evident that the Board does not consider that an airman's being in the air for more than 12 hours creates a hazardous condition in and of itself, for exactly such a situation is contemplated in § 41.56 (41.322) with respect to pilots. In effect, what is required by that section is that when the flight is to be of more than 12 hours' duration, provision be made for a relief pilot to permit the captain and first officer to be relieved from time to time of the strain of a continuous flight watch. The same principle is applicable to radio operators. Where the radio operator's flight watch is scheduled for more than 12 hours in a given 24, it is apparent that a second operator must be carried to relieve the first. However, what is essential is that after 12 hours of duty the radio operator be relieved, not that he be relieved by another operator, and consequently, if such relief is afforded by reason of the fact that the radio operator's services are not required for the operation of the aircraft for more than 12 hours, the same safety standard would appear to have been met.

Prior to the adoption of Amendment 41–1 on October 5, 1948, which specifically defined what was intended by "route segment," it may not have been clear in all cases when a radio operator was required to be on flight duty under the regulation. However, since the adoption of the definition of "route segment," the Administrator is permitted to specify the exact limits of a route segment, which may be considerably more confined than the route between the airports of takeoff and landing for the flight. Thus, under the regulations, the time scheduled over the route segment or segments for which the Administrator has determined radiotelegraphy is necessary represents the minimum on-duty time for which a flight radio operator is required. If the air carrier desires to maintain a radio flight watch beyond the minimum time thus prescribed or to utilize the services of the airmen in some other certificated capacity on the flight, of course, the time so spent must be included as part of the airman's on-duty flight time.

Accordingly, we interpret "scheduled to fly" as used in § 41.55 (41.321) and as applied to radio operators as meaning "scheduled for flight duty on the aircraft." Thus, only one flight radio operator is required on a scheduled flight over 12 hours from airport to airport where such operator is only required or assigned for duty as an airman over a route segment which is less than 12 hours in length.

§ 41.322 Flight time limitations for aircraft having three or more pilots and an additional flight crew member.

(a) Flight hours shall be scheduled in such a manner as to provide for adequate rest periods on the ground while the pilot is away from his base. Adequate sleeping quarters on the aircraft must be provided in all cases where a pilot is scheduled to fly more than 12 hours during any 24 consecutive hours.

(b) A pilot, upon return to his base from any flight or series of flights, shall receive a rest period of not less than twice the total number of hours flown since the last rest period at his base and during such period will not be required to perform any duty for the company. When the required rest period exceeds 7 days, that portion of the rest period in excess of 7 days may be given at any time before the pilot is again scheduled for flight duty on any route.

(c) A pilot shall not fly as a member of the flight crew more than 350 hours in any 90 consecutive days.

(d) A pilot shall not fly as a member of the flight crew more than 1,000 hours in any 12-month period.

§ 41.323 Flight time limitations for pilots not regularly assigned.

A pilot not regularly assigned as a flight crew member for an entire month under the provisions of § 41.321 or § 41.322 must not fly in excess of 100 hours in any 30 consecutive days.

§ 41.324 Deadhead transportation.

The time spent in deadhead transportation to or from duty assignment will not be considered a part of any rest period.

§ 41.325 Other commercial flying.

A pilot shall not do other commercial flying while employed by an air carrier when such flying, in addition to that in scheduled air transportation service will exceed any flight time limitations specified herein.

§ 41.326 Flight time limitations; radio operator.

When one flight radio operator is required, the flight time limitations prescribed in § 41.321 apply. When two or more flight radio operators are required, the flight time limitations prescribed in § 41.322 apply.

§ 41.327 Flight time limitations; flight engineer.

When one flight engineer is required, the flight time limitations prescribed in § 41.321 apply. When two or more flight engineers are required, the flight time limitations prescribed in § 41.322 apply.

§ 41.328 Flight time limitations; flight navigator.

The flight time limitations prescribed in § 41.322 apply.

DUTY TIME LIMITATIONS; AIRCRAFT DISPATCHER

§ 41.340 Aircraft dispatcher daily duty time limitations.

(a) The daily duty period for an aircraft dispatcher shall commence at such time as will permit him to become thoroughly familiar with existing and anticipated weather conditions along the route prior to the dispatch of any airplane. He shall remain on duty until all airplanes dispatched by him have completed their flights, or have proceeded beyond his jurisdiction, or until he is relieved by another qualified aircraft dispatcher.

(b) Except as provided in paragraph (c) of this section, the following rules will govern the hours of duty for an aircraft dispatcher, except when circumstances or emergency conditions beyond the control of the air carrier require otherwise:

(1) *Maximum consecutive hours of duty.* No dispatcher shall be scheduled for duty as such for a period of more than 10 consecutive hours.

(2) *Maximum scheduled hours of duty in 24 consecutive hours.* If a dispatcher is scheduled for duty as such for more than 10 hours in a period of 24 hours, he shall be given a rest period of not less than 8 hours at or before the termination of 10 hours of dispatcher duty.

(3) *Dispatcher's time off.* Each aircraft dispatcher shall be relieved from all duty with the air carrier for a period of at least 24 consecutive hours during any 7 consecutive days or the equivalent thereof within any one month.

(c) At duty stations outside the continental limits of the United States designated by the Administrator, a dispatcher may be scheduled for duty for a period of more than 10 consecutive hours in a 24-hour period: *Provided,* That a dispatcher so scheduled shall be relieved from all duty with the air carrier for a period of at least 8 hours during each 24-hour period: *And provided further,* That a dispatcher so scheduled shall not be scheduled for duty for more than 40 hours in any 7 consecutive days.

FLIGHT OPERATIONS

§ 41.351 Operational control.

The air carrier shall be responsible for operational control.

(a) *Joint responsibility of aircraft dispatcher and pilot in command.* The aircraft dispatcher and the pilot in command shall be jointly responsible for the preflight planning, delay, and dispatch release of the flight in compliance with the applicable regulations of this subchapter and operations specifications.

(b) *Responsibility of dispatcher.* The aircraft dispatcher shall be responsible:

(1) For monitoring the progress of each flight and the issuance of instructions and information necessary for the continued safety of the flight.

(2) For the cancellation or redispatch of a flight if, in his opinion or in the opinion of the pilot in command, the flight cannot operate or continue to operate safely as planned or released.

(c) *Responsibility of pilot in command.* (1) The pilot in command shall during flight time be in command of the airplane and crew and shall be responsible for the safety of the passengers, crew members, cargo, and airplane.

(2) No pilot shall operate an airplane in a careless and reckless manner so as to endanger life or property.

NOTE: The Board interprets and construes § 40.351 (c) as conferring on the pilot in command, with respect to matters concerning the operation of the airplane, full control and authority without limitation over all other crew members and their duties during flight time, whether or not he holds a valid certificate authorizing him to perform the duties and functions of such other crew member.

§ 41.352 Operations notices.

Each air carrier shall notify the appropriate operations personnel promptly

of all changes in equipment and operating procedures, including known changes in the use of navigational aids, airports, air traffic control procedures and regulations, local airport traffic control rules, and of all known hazards to flight, including icing and other potentially hazardous meteorological conditions and irregularities of ground and navigational facilities.

§ 41.353 Operations schedules.

In establishing flight operations schedules, each air carrier shall allow sufficient time for the proper servicing of airplanes with fuel and oil at intermediate stops, and it shall consider the prevailing winds along the particular route and the cruising speed of the type of airplane to be flown which shall not exceed the specified cruising output of the airplane engines.

§ 41.354 Flight crew members at controls.

All required flight crew members shall remain at their respective stations when the airplane is taking off or landing, and while en route except when the absence of one such flight crew member is necessary in connection with his regular duties. All flight crew members shall keep their seat belts fastened when at their respective stations.

§ 41.355 Manipulation of controls.

No person other than a qualified pilot of the air carrier shall manipulate the flight controls during flight, except that any one of the following persons may, with the permission of the pilot in command, manipulate such controls:

(a) Authorized pilot safety representatives of the Administrator or the Board who are qualified on the airplane and are engaged in checking flight operations, or

(b) Pilot personnel of another air carrier properly qualified on the airplane and authorized by the operating carrier.

§ 41.356 Admission to flight deck.

No persons, other than crew members, shall be admitted to the flight deck of an airplane except those authorized in paragraps (a) and (b) of this section. For the purposes of this section, the Administrator shall determine what constitutes the flight deck.

(a) CAA Flight Operations and Airworthiness Inspectors and authorized representatives of the Board while in the performance of official duties shall be admitted to the flight deck.

NOTE: Nothing contained in this paragraph shall be construed as limiting the emergency authority of the pilot in command to exclude any person from the flight deck in the interest of safety.

(b) The persons listed below may be admitted to the flight deck when authorized by the pilot in command:

(1) An employee of the Federal Government or of an air carrier or other aeronautical enterprise whose duties are such that his presence on the flight deck is necessary or advantageous to the conduct of safe air carrier operations, or

NOTE: Federal employees who deal responsibly with matters relating to air carrier safety and such air carrier employees as pilots, dispatchers, meteorologists, communication operators, and mechanics whose efficiency would be increased by familiarity with flight conditions may be considered eligible under this requirement. Employees of traffic, sales, and other air carrier departments not directly related to flight operations cannot be considered eligible unless authorized under subparagraph (2) of this paragraph.

(2) Any other person specifically authorized by the air carrier management and the Administrator.

(c) All persons admitted to the flight deck shall have seats available for their use in the passenger compartment except:

(1) CAA Flight Operations and Airworthiness Inspectors or other authorized representatives of the Civil Aeronautics Administration or the Civil Aeronautics Board engaged in checking flight operations;

(2) Air traffic controllers who have been authorized by the Administrator to observe ATC procedures;

(3) Certificated airmen of the air carrier whose duties with the carrier require an airman certificate;

(4) Certificated airmen of another air carrier whose duties with such carrier require an airman certificate and who have been authorized by the air carrier concerned to make specific trips over the route;

(5) Employees of the air carrier, whose functions are directly related to the conduct or planning of flight operations or the in-flight monitoring of aircraft equipment or operating procedures, but only when their presence in the cockpit is required in the furtherance of such functions and only when specifically authorized in writing by a responsible supervisor in the operations department of the air carrier, who is listed in the Operations Manual as having such authority; and

(6) Technical representatives of the manufacturer of the airplane or its components whose functions are directly related to the in-flight monitoring of aircraft equipment or operating procedures, but only when their presence in the cockpit is required in the furtherance of such functions and only when specifically authorized in writing by the Administrator and by a responsible supervisor in the operations department of the air carrier, who is listed in the Operations Manual as having such authority.

§ 41.357 Use of cockpit check procedure.

The cockpit check procedure shall be used by the flight crew for each procedure as set forth in § 41.176.

§ 41.358 Personal flying equipment.

The pilot in command shall insure that the following equipment is aboard the airplane for each flight:

(a) Appropriate aeronautical charts containing adequate information concerning navigational aids and instrument approach procedures, and

(b) A flashlight in good working order in the possession of each required crew member.

§ 41.359 Restriction or suspension of operation.

When conditions exist which constitute a hazard to the conduct of safe air carrier operations, including airport and runway conditions, the air carrier shall restrict or suspend operations until such hazardous conditions are corrected.

§ 41.360 Emergency decisions; pilot in command and aircraft dispatcher.

(a) In emergency situations which require immediate decision and action, the pilot in command may follow any course of action which he considers necessary under the circumstances. In such instances the pilot in command, to the extent required in the interest of safety, may deviate from prescribed operations procedures and methods, weather minimums, and the regulations of this subchapter.

(b) If an emergency situation arises during the course of a flight which requires immediate decision and action on the part of the aircraft dispatcher, and which is known to him, he shall advise the pilot in command of such situation. The aircraft dispatcher shall ascertain the decision of the pilot in command and shall cause the same to be made a matter of record. If unable to communicate with the pilot, the dispatcher shall declare an emergency and follow any course of action which he considers necessary under the circumstances.

(c) When emergency authority is exercised by the pilot in command or by the dispatcher, the appropriate dispatch center shall be kept fully informed regarding the progress of the flight, and within 10 days after the pilot's return to his home base a written report of any deviation shall be submitted by the individual declaring the emergency to the Administrator through the air carrier operations manager.

§ 41.361 Reporting potentially hazardous meteorological conditions and irregularities of ground and navigational facilities.

When any meteorological condition or irregularity of ground or navigational facilities is encountered in flight, the knowledge of which the pilot in command considers essential to the safety of other flights, he shall notify an appropriate ground radio station as soon as practicable. Any such information pertaining to irregularities of ground and navigational facilities shall be reported by the air carrier to the authority immediately responsible therefor.

§ 41.362 Reporting mechanical irregularities.

The pilot in command shall enter or cause to be entered in the maintenance log of the airplane all mechanical irregularities encountered during flight time. He shall, prior to each flight ascertain the status of any irregularities entered in the log at the end of the last preceding flight.

§ 41.363 Engine failure or precautionary stoppage.

(a) Except as provided in paragraph (b) of this section, when one engine of

an airplane fails or where the rotation of an engine of an airplane is stopped in flight as a precautionary measure to prevent possible damage, a landing shall be made at the nearest suitable airport in point of time where a safe landing can be effected.

(b) The pilot in command of an airplane having 4 or more engines may, if not more than one engine fails or the rotation thereof is stopped, proceed to an airport of his selection if, upon consideration of the following factors, he determines such action to be as safe a course of action as landing at the nearest suitable airport:

(1) The nature of the malfunctioning and the possible mechanical difficulties which may be encountered if flight is continued;

(2) The altitude, airplane weight, and usable fuel at the time of engine stoppage;

(3) The weather conditions en route and at possible landing points;

(4) The air traffic congestion;

(5) The type of terrain; and

(6) The familiarity of the pilot with the airport to be used.

(c) When engine rotation is stopped in flight, the pilot in command shall notify the proper ground radio station as soon as practicable and shall keep such station fully informed regarding the progress of the flight.

(d) In cases where the pilot in command selects an airport other than the nearest suitable airport in point of time, he shall, upon completion of the trip, submit a written report, in duplicate, to his operations manager setting forth his reasons for determining that the selection of an airport other than the nearest was as safe a course of action as landing at the nearest suitable airport. The operations manager shall, within 10 days after the pilot's return to his home base, furnish a copy of this report with his own comments thereon to the Administrator.

§ 41.364 Instrument approach procedures.

When in accordance with Part 60 of this subchapter an instrument approach is necessary, the instrument approach procedures and weather minimums authorized in the operations specifications shall be adhered to.

§ 41.365 Requirements for air carrier equipment interchange.

(a) Prior to conducting any operations pursuant to an interchange agreement authorized by the Civil Aeronautics Board, the air carrier shall show that:

(1) The procedures proposed for the conduct of such operations by the carriers involved conform with the provisions of this subchapter, and with safe operating practices;

(2) All operations personnel involved are familiar with the airplanes and equipment utilized in the interchange and with the communications and dispatching procedures to be used;

(3) All maintenance personnel involved are familiar with the airplanes and equipment, and the maintenance procedures applicable to the interchange;

(4) The flight crew and the dispatchers involved meet the appropriate route and airport qualifications; and

(5) All airplanes operated are essentially similar to those airplanes of the carrier with whom interchange is to be effected with respect to flight instruments and their arrangement and with respect to the arrangement and motion of controls critical to safety, unless the Administrator determines that adequate training programs have been established to insure that any dissimilarities which might be a potential hazard will be safely overcome by flight crew familiarization.

(b) The pertinent provisions and procedures affecting the carriers involved shall be included in their manuals.

§ 41.370 Briefing of passengers.

Each air carrier engaged in extended overwater operations shall assure that all passengers are briefed orally concerning the location and method of operation of life vests and emergency exits and the location of life rafts. The procedure to be followed in presenting this briefing shall be described in the air carrier manual. Such a briefing shall include a demonstration of the method of donning and inflating a life vest. Where the airplane proceeds directly over water after take-off, the briefing on location of the life vests and emergency exits shall be accomplished prior to take-off, and the remainder of the briefing shall be accomplished as soon thereafter as practicable. Where the airplane does not proceed directly over water after take-off, no part of the briefing need be accomplished prior to take-off but the entire briefing shall be accomplished prior to reaching the overwater portion of the flight.

§ 41.371 Use of liquor, narcotics, and drugs.

No person shall pilot an airplane or serve as a member of the crew while under the influence of intoxicating liquor or use any drug which affects his faculties in any manner contrary to safety. A pilot shall not permit any person to be carried in the airplane who is obviously under the influence of intoxicating liquor or drugs, except a medical patient under proper care or in case of emergency.

DISPATCHING RULES

§ 41.381 Necessity for dispatching authority.

No flight shall be started without specific authority from an aircraft dispatcher. Unless redispatched no flight shall be continued from an intermediate airport unless conditions substantially equal to or better than those upon which the original dispatch release was based continue to exist: *Provided*, That no flight may be continued from an intermediate airport without redispatch if it has remained on the ground in excess of 6 hours.

§ 41.382 Familiarity with weather conditions.

No aircraft dispatcher shall release a flight unless he is thoroughly familiar with existing and anticipated weather conditions along the route to be flown.

§ 41.383 Facilities and services.

The dispatcher shall furnish to the pilot in command all available current reports or information pertaining to irregularities of navigational facilities and airport conditions which may affect the safety of the flight. He shall also furnish the pilot, while en route, any additional available information concerning meteorological conditions and irregularities of facilities and services which may affect the safety of the flight.

§ 41.384 Airplane equipment required for dispatch.

All airplanes dispatched shall be airworthy and shall be equipped in accordance with the provisions of § 41.170.

§ 41.385 Communications and navigational facilities required for dispatch.

No airplane shall be dispatched over any route or route segment unless the communications and navigational facilities required by §§ 41.34 and 41.36 are in satisfactory operating condition.

§ 41.386 Dispatching under VFR.

Airplanes shall be dispatched for operation under VFR only if the appropriate weather reports and forecasts, or a combination thereof, indicate that the ceilings and visibilities along the route to be flown are, and will remain, at or above the minimums required for flight under VFR until the flight arrives at the airport or airports of intended landing specified in the dispatch release.

§ 41.387 Dispatching under IFR, over-the-top, or over water.

(a) Airplanes shall be dispatched for operations under IFR or over-the-top beyond the point of no return only if the appropriate weather reports and forecasts, or a combination thereof, pertaining to the airport or airports to which dispatched indicate that the ceilings and visibilities will be at or above the approved minimums at the estimated time of arrival thereat.

(b) An airplane may be dispatched to the point of no return if either the destination or alternate specified in the dispatch release is forecast to be at or above the approved minimums at the estimated time of arrival thereat.

(c) Extended overwater operations shall be conducted in accordance with the IFR requirements of this part except where the air carrier shows that such requirements are not necessary from a safety standpoint. The Administrator may require compliance with IFR requirements for overwater flights other than extended overwater flights whenever such requirement is necessary in the interest of safety.

§ 41.388 Alternate airport for departure.

(a) If the weather conditions at the airport of take-off are below the approved landing minimums for that airport, no airplane shall be dispatched from that airport unless an alternate airport located with respect to the airport of take-off as follows is specified in the dispatch release: *Provided*, That such alternate need not be selected if the ceiling and visibility, respetively, at the

take-off airport are at least 300 feet and one mile, 400 feet and three-quarters mile, or 500 feet and one-half mile:

(1) *Airplanes having 2 or 3 engines.* Alternate airport located at a distance no greater than one hour of flying time in still air at normal cruising speed with one engine inoperative.

(2) *Airplanes having 4 or more engines.* Alternate airport located at a distance no greater than 2 hours of flying time in still air at normal cruising speed with one engine inoperative.

(b) The alternate airport weather requirements shall be those specified in § 41.390.

(c) All required alternate airports shall be listed in the dispatch release.

§ 41.389 Alternate airport for destination; IFR or over-the-top.

(a) For all IFR or over-the-top operations there shall be at least one alternate airport designated for each airport of destination: *Provided*, That for flights scheduled for no more than 6 hours no alternate need be designated when, for the period 2 hours before to 2 hours after the estimated time of arrival, the ceiling at the airport to which the flight is dispatched is forecast to be at least 1,000 feet above the minimum initial approach altitude applicable to such airport and the visibility at such airport is forecast to be at least 3 miles: *And provided further*, That a route may be approved without an available alternate for a particular airport where the provisions of § 41.396 (b) are met.

(b) The alternate airport weather requirements shall be those specified in § 41.390.

(c) All required alternate airports shall be listed in the dispatch release.

§ 41.390 Alternate airport weather minimums.

Except as provided in § 41.387 (b), an airport shall not be specified in the dispatch release as an alternate airport unless the appropriate weather reports and forecasts, or a combination thereof, indicate that the ceilings and visibilities will be at or above the alternate minimums for such airport when the flight shall arrive thereat. The weather minimums at such alternate airport shall not be less than one of the following and in no event less than the corresponding minimums specified for the airport when used as a regular airport: *Provided*, That the Administrator may approve higher or lower minimums at particular airports where the safe conduct of flight requires or permits, considering the character of the terrain being traversed, the meteorological service and navigational facilities available, and other conditions affecting flight.

(a) An airport served by an approved radio navigational facility and either an instrument landing system or a ground control approach system which the carrier has been authorized to use: Ceiling 800 feet and visibility of 1 mile; or ceiling 700 feet and visibility of 1½ miles; or ceiling 600 feet and visibility of 2 miles;

(b) An airport served by an approved radio navigational facility: Ceiling 1,000 feet and visibility of 1 mile; or ceiling 900 feet and visibility of 1½ miles; or ceiling 800 feet and visibility of 2 miles;

(c) An airport not served by an approved radio navigational facility: If overcast, ceiling 1,000 feet above the minimum en route instrument altitude applicable to the route to such alternate airport and visibility of 2 miles; if broken clouds, ceiling 1,000 feet above the elevation of the airport and visibility of 2 miles.

§ 41.391 Continuance of flight; flight hazards.

(a) No airplane shall be continued in flight toward any airport to which it has been dispatched when, in the opinion of the pilot in command or the aircraft dispatcher, the flight cannot be completed with safety, unless in the opinion of the pilot in command there is no safer procedure. In the latter event, continuation shall constitute an emergency situation as set forth in § 41.360.

(b) If any item of equipment required pursuant to the regulations of this subchapter for the particular operation being conducted becomes unserviceable en route, the pilot in command shall comply with the procedures specified in the air carrier manual for such occurrence: *Provided*, That the Administrator may authorize the incorporation in the air carrier manual of procedures for the continued operation of an airplane beyond a scheduled terminal point where he finds that, in the particular circumstances of the case, literal compliance with this requirement is not necessary in the interest of safety.

§ 41.392 Operation in icing conditions.

(a) An airplane shall not be dispatched, en route operations continued, or landing made when, in the opinion of the pilot in command or aircraft dispatcher, icing conditions are expected or encountered which might adversely affect the safety of the flight.

(b) No airplane shall take off when frost, snow, or ice is adhering to the wings, control surfaces, or propellors of the airplane.

§ 41.393 Redispatch and continuance of flight.

(a) Any regular, provisional, or refueling airport the use of which is authorized for the type of airplane to be operated may be specified as a destination for the purpose of original dispatch.

(b) An airport specified as a destination or alternate for the purpose of original dispatch may be changed en route to another airport which is authorized for the type of airplane to be operated, provided that the appropriate requirements of §§ 41.381 through 41.409 and § 41.70 or § 41.90 are met at the time of redispatch.

(c) No flight shall be continued, beyond the point of no return, to any airport to which it has been dispatched unless the weather conditions at an alternate airport specified in the dispatch release are forecast to be at or above the alternate minimums for such airport when the flight shall arrive thereat: *Provided*, That the dispatch release may be amended en route to include any approved alternate airport lying within the fuel range of the airplane as specified in §§ 41.396 and 41.397.

(d) When the dispatch release is amended while the airplane is en route, such amendments shall be made a matter of record.

§ 41.394 Dispatch to and from provisional airport.

(a) No aircraft dispatcher shall dispatch an airplane to a provisional airport unless such airport complies with all of the requirements of this part pertinent to regular airports.

(b) Dispatch from a provisional airport shall be accomplished in accordance with the same regulations governing dispatch from a regular airport.

§ 41.395 Take-offs from alternate airports or from airports not listed in the operations specifications.

No airplane shall take off from an alternate airport or from an airport which is not listed in the air carrier operations specifications unless:

(a) Such airport and related facilities are adequate for the operation of the airplane;

(b) In taking off it is possible to comply with the applicable airplane operating limitations;

(c) The weather conditions at that airport are equal to or better than those prescribed for such airport, however, if no weather minimums are prescribed for the airport, the take-off and climb shall be in accordance with VFR as prescribed in Part 60 of this subchapter unless otherwise authorized by the Administrator; and

(d) The airplane is dispatched in accordance with all dispatching rules applicable to operation from an approved airport.

§ 41.396 Fuel supply for all operations.

(a) *Reciprocating-engine- and turbo-propeller-powered airplanes.* (1) Where an airport on a route has an available alternate(s), no airplane shall be dispatched unless it carries sufficient fuel:

(i) To fly to the airport to which dispatched, and thereafter;

(ii) To fly to and land at the most distant alternate designated in the dispatch release, and thereafter;

(iii) To fly for a period of at least 30 minutes plus 15 percent of the total time required to fly at normal cruising consumption to the airports specified in subdivisions (i) and (ii) of this subparagraph or to fly for 90 minutes at normal cruising consumption, whichever is lesser.

(2) Where a route is approved without an available alternate for a particular airport, no airplane shall be dispatched to that airport unless it carries sufficient fuel to fly to that airport and thereafter to fly for at least 3 hours at normal cruising consumption.

(b) *Turbine-powered airplanes.* (1) A turbine-powered airplane (exclusive of turbo-propeller-powered airplanes) may be dispatched or take off only if it carries sufficient fuel, considering the wind and other weather conditions expected:

(i) To fly to the next point of landing specified in the clearance, and thereafter;

(ii) To fly for a period equal to 10 percent of the total time required to fly from the point of dispatch to the next point of landing specified in the clearance, and thereafter;

(iii) To fly to and land at the most distant alternate airport designated for that point in the clearance, and thereafter;

(iv) To fly for a period of 30 minutes at holding speed at 1,500 feet above the alternate airport elevation under standard temperature conditions. In the case of a route approved without an available alternate for a particular stop, an airplane dispatched to that point must carry sufficient fuel, considering wind and other weather conditions expected, to fly to that point and thereafter at least 2 hours at normal cruising consumption.

(2) The Administrator may require fuel in excess of any of the minimums specified in this paragraph when he finds that additional fuel is necessary on a particular route in the interest of safety.

§ 41.397 Factors involved in computing fuel required.

In computing the fuel required, consideration shall be given to the wind and other weather conditions forecast, traffic delays anticipated, and any other conditions which might delay the landing of the airplane. Required fuel shall be additional to unusable fuel.

§ 41.405 Take-off and landing weather minimums; VFR.

Irrespective of any clearance which may be obtained from air traffic control, no airplane shall take off or land under VFR when the reported ceiling or ground visibility is less than specified below: *Provided,* That where a local surface restriction to visibility exists, such as smoke, dust, or blowing snow or sand, the visibility for both day and night operations may be reduced to one mile, if all turns after take-off and prior to landing and all flight beyond a mile from the airport boundary can be accomplished above or outside, the area so restricted.

(a) For day operations: 1,000-foot ceiling and one-mile visibility;

(b) For night operations: 1,000-foot ceiling and two-mile visibility.

§ 41.406 Take-off and landing weather minimums; IFR.

(a) Irrespective of any clearance which may be obtained from air traffic control, no airplane shall:

(1) Take off under IFR when the reported ceiling or ground visibility is less than that approved for the airport when used as a regular airport, or

(2) Land under IFR when the ceiling or ground visibility reported by the U. S. Weather Bureau or by a source approved by the U. S. Weather Bureau is less than that approved for the airport when used as a regular airport, except as provided in paragraphs (c) and (d) of this section.

(b) Except as provided in paragraphs (c) and (d) of this section, no instrument approach procedure shall be executed when the latest U. S. Weather Bureau report or a report from a source approved by the U. S. Weather Bureau indicates the ceiling or visibility is less than the landing minimum approved for the airport when used as a regular airport.

(c) An instrument approach procedure may be executed when the U. S. Weather Bureau report or a report from a source approved by the U. S. Weather Bureau indicates that the ceiling or visibility is less than approved minimum for landing, if the airport is served by ILS and PAR in operative condition and the pilot uses one facility as the primary aid, and the other as a monitoring aid, and thereafter a landing may be made, if weather conditions equal to or better than the prescribed minimums for the primary aid are found to exist by the pilot in command upon reaching the authorized landing minimum altitude.

(d) If an instrument approach procedure is initiated when the current U. S. Weather Bureau report or a report from a source approved by the U. S. Weather Bureau indicates that the prescribed ceiling and visibility minimums exist and a later weather report indicating below minimum conditions is received after the airplane (1) is on an ILS final approach and has passed the outer marker, or (2) is on a final approach using a radio range station or comparable facility and has passed the appropriate facility and has reached the authorized landing minimum altitude, or (3) is on PAR final approach and has been turned over to the final approach controller, such ILS, Range, or PAR approach may be continued and a landing may be made in the event weather conditions equal to or better than the prescribed minimums for the airport are found to exist by the pilot in command of the flight upon reaching the authorized landing minimum altitude.

§ 41.408 Flight altitude rules.

Except when necessary for take-off and landing, the flight altitude rules prescribed in paragraphs (a) and (b) of this section, in addition to the applicable provisions of § 60.17 of this subchapter, shall govern air carrier operations: *Provided,* That other altitudes may be established by the Administrator for any route or portion thereof where he finds, after considering the character of the terrain being traversed, the quality and quantity of meteorological service, the navigational facilities available, and other flight conditions, that the safe conduct of flight permits or requires such other altitudes.

(a) *Day VFR passenger operations.* No airplane engaged in passenger operations shall be flown at an altitude less than 1,000 feet above the surface or less than 1,000 feet from any mountain, hill, or other obstruction to flight.

(b) *Night VFR or IFR operations including over-the-top.* No airplane shall be flown at an altitude less than 1,000 feet above the highest obstacle located within a horizontal distance of 5 miles from the center of the course intended to be flown or, in mountainous terrain designated by the Administrator, 2,000 feet above the highest obstacle located within a horizontal distance of 5 miles from the center of the course intended to be flown: *Provided,* That in VFR operations at night in such mountainous areas airplanes may be flown over an approved lighted airway at a minimum altitude of 1,000 feet above such obstacle: *And provided further,* That in the case of high-altitude operations, the minimum altitude shall be not less than 2,000 feet above the elevation of the highest ground within 25 miles of the intended track: *And provided further,* That adherence to a minimum flight altitude will not be required during the time a flight is proceeding in accordance with paragraph (c) of this section.

(c) *Daytime over-the-top operations below minimum en route altitudes.* Over-the-top operations may be conducted at flight altitudes lower than the minimum en route IFR altitudes by day only and in accordance with the following provisions:

(1) Such operations shall be conducted at least 1,000 feet above the top of lower broken or overcast cloud cover;

(2) The top of the lower cloud cover shall be generally uniform and level;

(3) Flight visibility shall be at least 5 miles; and

(4) The base of any higher broken or overcast cloud cover shall be generally uniform and level and shall be at least 1,000 feet above the minimum en route IFR altitude for the route segment.

§ 41.409 Altitude maintenance on initial approach.

(a) When making an initial approach to a radio navigational facility under IFR (excluding over-the-top conducted in accordance with the provisions of § 41.408 (c)), an airplane shall not descend below the pertinent minimum altitude for initial approach specified by the Administrator for such facility until arrival over the radio facility has been definitely established;

(b) When making an initial approach on a flight being conducted in accordance with the provisions of § 41.408 (c), a pilot shall not commence an instrument approach until arrival over the radio facility has definitely been established. In executing an instrument approach procedure under such circumstances, the airplane shall not be flown at an altitude lower than 1,000 feet above the top of the lower cloud or the minimum altitude specified by the Administrator for that portion of the instrument approach procedure being flown, whichever is the lower.

§ 41.411 Preparation of dispatch release.

A dispatch release shall be prepared for each flight between specified points from information furnished by the authorized aircraft dispatcher. This release shall be signed by the pilot in command and by the authorized aircraft dispatcher only when both believe the flight can be made with safety. The aircraft dispatcher may delegate authority to sign such release for a particular flight, but he shall not delegate the authority to dispatch.

§ 41.412 Preparation of load manifest.

The air carrier shall be responsible for the preparation and accuracy of a load

manifest form prior to each take-off. This form shall be prepared by personnel of the air carrier charged with the duty of supervising the loading of airplanes and the preparation of load manifest forms or by other qualified persons authorized by the air carrier.

REQUIRED RECORDS AND REPORTS

§ 41.501 Crew member and dispatcher records.

Each air carrier shall maintain current records of every crew member and aircraft dispatcher. These records shall contain such information concerning the qualifications of each such crew member and dispatcher as is necessary to show compliance with the appropriate requirements of the regulations of this subchapter, e. g., proficiency and route checks, airplane qualifications, training, physical examinations, and flight time records. The disposition of any flight crew member or aircraft dispatcher released from the employ of the air carrier, or who becomes physically or professionally disqualified, shall be indicated in these records which shall be retained by the air carrier for at least 3 months.

§ 41.502 List of airplanes.

Each air carrier shall maintain and furnish to the Administrator a current list of all airplanes being operated by it in scheduled air transportation: *Provided*, That airplanes of another air carrier being operated in accordance with an interchange agreement may be incorporated by reference.

§ 41.503 Dispatch release form.

(a) The dispatch release may be in any form but shall contain at least the following information with respect to each flight.

(1) Identification number of the airplane to be used, and the trip number;

(2) Airport of departure, intermediate stops, destination, and alternates therefor;

(3) Minimum fuel supply; and

(4) Type of operation, e. g., IFR, VFR.

(b) The dispatch release shall contain, or have attached thereto, weather reports, available weather forecasts, or a combination thereof, for the destination, intermediate stops, and alternates specified therein which shall be the latest available at the time the dispatch release is signed. It shall include such additional weather reports and forecasts, as available, considered necessary or desirable by the pilot in command or aircraft dispatcher.

§ 41.504 Load manifest.

(a) The load manifest shall contain at least the following information with respect to the loading of an airplane at the time of take-off:

(1) The weight of:

(i) Airplane,

(ii) Fuel and oil,

(iii) Cargo, including mail and baggage, and

(iv) Passengers;

(2) The maximum allowable weight applicable for the particular flight;

(3) The total weight computed in accordance with approved procedures; and

(4) Evidence that the airplane is loaded in accordance with an approved schedule which insures that the center of gravity is within approved limits.

(b) The load manifest shall be prepared and signed for each flight by qualified personnel of the air carrier charged with the duty of supervising the loading of the airplane and the preparation of load manifest forms, or by other qualified personnel authorized by the air carrier.

§ 41.505 Disposition of load manifest, dispatch release form, and flight plans.

Copies of the completed load manifest, or information therefrom except with respect to cargo and passenger distribution, the dispatch release form, and the flight plan shall be in the possession of the pilot in command and shall be carried in the airplane to its destination. Copies also shall be kept for at least 3 months.

§ 41.506 Maintenance records.

(a) Each air carrier shall keep at its principal maintenance base current records of the total time in service, the time since last overhaul, and the time since last inspection of all major components of the airframe, engines, propellers, and appliances.

(b) Records of total time in service may be discontinued when it has been shown that the service life of component parts is safely controlled by other means, such as inspection, overhaul, or parts retirement procedures. The Administrator may require the keeping of total time records for specific parts when it is found that other procedures will not safely limit the service life of such parts.

(c) An airplane component, engine, propeller, or appliance for which complete records are not available may be placed in service, provided that:

(1) It is of a type for which total time-in-service records are not required under the provisions of paragraph (b) of this section;

(2) Parts which are limited by the Administrator or manufacturer to a specific service time are retired and replaced by new parts; and

(3) It has been properly overhauled or rebuilt, and a record of such overhaul or rebuilding is included in the maintenance records.

§ 41.507 Maintenance log.

A legible record shall be made in the airplane's maintenance log of the action taken in each case of reported or observed failures or malfunctions of airframes, engines, propellers, and appliances. The air carrier shall establish an approved procedure for retaining an adequate number of such records in the airplane in a place readily accessible to the flight crew and shall incorporate such procedure in the air carrier manual. The maintenance log shall contain information from which the flight crew may readily determine the time since last overhaul of the airframe and engines.

§ 41.508 Daily mechanical reports.

(a) Whenever a failure, malfunctioning, or other defect is detected in flight or on the ground in an airplane or airplane component which may reasonably be expected by the air carrier to cause a serious hazard in the operation of any airplane, a report shall be made of such failure, malfunctioning, or other defect to the Administrator. This report shall cover a 24-hour period beginning and ending at midnight, shall be submitted by 12 o'clock midnight of the following working day, or sooner if the seriousness of the malfunction or difficulty so warrants, and shall include as much of the following information as is available on the first daily report following such incidents:

(1) Type and CAA identification number of the airplane, name of air carrier, and date;

(2) Emergency procedure effected: unscheduled landing, dumping fuel, etc.;

(3) Nature of condition: fire, structural failure, etc.;

(4) Identification of part and system involved, including the type designation of the major component;

(5) Apparent cause of trouble: wear, cracks, design deficiency, personnel error, etc.;

(6) Disposition: repaired, replaced, airplane-grounded, etc.; and

(7) Brief narrative summary to supply any other pertinent data required for more complete identification, determination of seriousness, corrective action, etc.

(b) These reports shall not be withheld pending accumulation of all of the information specified in paragraph (a) of this section. When additional information is obtained relative to the incident, it shall be expeditiously submitted as a supplement to the original report, reference being made to the date and place of submission of the first report.

§ 41.509 Mechanical interruption summary report.

Each air carrier shall submit regularly and promptly to the Administrator a summary report containing information on the following occurrences:

(a) All interruptions to a scheduled flight, unscheduled changes of airplanes en route, and unscheduled stops and diversions from route which result from known or suspected mechanical difficulties or malfunctions.

(b) The number of engines removed prematurely because of mechanical trouble, listed by make and model of engine and the airplane type in which the engine was installed.

(c) The number of propeller featherings in flight, listed by type of propeller and type of engine and the airplane on which the propeller is installed. Propeller featherings accomplished for training, demonstration, or flight check purposes need not be reported.

§ 41.510 Alteration and repair reports.

Reports of major alterations or repairs of airframes, engines, propellers, and appliances shall be made available to the Administrator promptly upon completion of such alterations or repairs.

§ 41.511 Maintenance release.

When an airplane is released by the maintenance organization to flight op-

erations, a maintenance release or appropriate entry into the maintenance log certifying that the airplane is in an airworthy condition shall be prepared and signed by a maintenance inspector or a person authorized by the inspection organization prior to release of such airplane. If a maintenance release form is prepared, a copy shall be given to the pilot in command. An appropriate record shall be kept for at least 2 months.

§ 41.512 Communication records.

Each air carrier shall maintain, and retain for a period of 30 days, records of radio contacts by or with pilots en route.

[F. R. Doc. 59–26; Filed, Jan. 5, 1959; 8:45 a. m.]

NOTICES

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

CALIFORNIA

Notice of Proposed Withdrawal and Reservation of Lands

DECEMBER 9, 1958.

The Bureau of Reclamation, United States Department of the Interior, has filed an application, Serial No. Sacramento 054898, for the withdrawal of the lands described below, from all forms of appropriation under the public land laws, including the general mining laws and mineral leasing laws.

The applicant desires the land for construction and subsequent operation and management of the Trinity River Division, Central Valley Project, California, reservoirs, access roads, material sites, and tunnel rights-of-way.

For a period of 30 days from the date of publication of this notice, persons having cause may present their objections in writing to the undersigned official of the Bureau of Land Management, Department of the Interior, California Fruit Building, Room 1000, 4th and J Streets, Sacramento 14, California.

If circumstances warrant it, a public hearing will be held at a convenient time and place, which will be announced.

The determination of the Secretary on the application will be published in the FEDERAL REGISTER. A separate notice will be sent to each interested party of record.

The lands involved in the application are:

MOUNT DIABLO MERIDIAN, CALIFORNIA

T. 32 N., R. 6 W.,
Sec. 6: Lot 7, SE¼SW¼, S½SE¼;
Sec. 8: E½NE¼, SW¼NE¼, NE¼SE¼;
Sec. 14: S½ excepting that portion lying within boundaries of Mineral Survey No. 5748;
Sec. 15: S½S½NW¼SW¼, NE¼SE¼, S½SE¼;
Sec. 18: Lot 1, NE¼NW¼;
Sec. 21: W½SW¼SW¼;
Sec. 23: S½NW¼;
Sec. 24: Lots 1, 2, 3, 4, N½NW¼;
Sec. 27: E½NW¼SW¼, NW¼SE¼;
Sec. 28: S½NW¼, SW¼, excepting that portion lying within the boundaries of Mineral Survey No. 3163;
Sec. 29: E½NE¼NE¼;
Sec. 33: W½NE¼NE¼, NW¼NE¼, NE¼NW¼, excepting that portion lying within the boundaries of Mineral Survey No. 3163;
Sec. 34: W½NW¼, SW¼NE¼SW¼, W½SE¼SW¼;

T. 36 N., R. 6 W.,
Sec. 18: Lots 1, 2, 3, and 4;
Sec. 30: Lot 2, Lots 3 and 4, excepting Northern Trinity Road Company toll road right-of-way 60 feet in width which was excepted by the La Moine Lumber and Trading Company in its deed to the United States dated February 18, 1929, recorded March 2, 1929, in Book 48, Deeds, Page 157, Records of Trinity County, California, in connection with Forest Exchange Sacramento 023138, E½SW¼, excepting Northern Trinity Road Company toll road right-of-way 60 feet in width which was excepted by the La Moine Lumber and Trading Company in its deed to the United States dated April 15, 1927, recorded April 16, 1927, in Volume 28, Page 240, Official Records of Shasta County, California, and Book 46, Deeds, Page 400, Records of Trinity County, California, in connection with Forest Exchange Sacramento 017296;
Sec. 31: Lots 1, 2, 3, and 4 W½NE¼NW¼, excepting Northern Trinity Road Company toll road right-of-way 60 feet in width which was excepted by the La Moine Lumber and Trading Company in its deed to the United States dated April 15, 1927, recorded April 16, 1927, in Volume 28, Page 240, Official Records of Shasta County, California, and Book 46, Deeds, Page 400, Records of Trinity County, California, in connection with Forest Exchange Sacramento 017296.

T. 32 N., R. 7 W.,
Sec. 2: SE¼NW¼, NW¼SE¼;
Sec. 4: Lots 18 and 19;
Sec. 6: All, except that portion lying within the boundaries of Mineral Survey No. 5701;
Sec. 8: NE¼, NE¼NW¼;
Sec. 10: NE¼, SE¼NW¼, NE¼SW¼, N½SE¼.

T. 34 N., R. 7 W.,
Sec. 4: Lots 1, 2, S½NE¼;
Sec. 18: SE¼SW¼, W½W½SW¼SE¼.

T. 35 N., R. 7 W.,
Sec. 2: SW¼;
Sec. 12: E½;
Sec. 14: SE¼SE¼SE¼;
Sec. 20: SE¼NE¼, S½SE¼;
Sec. 24: NW¼NW¼NW¼;
Sec. 26: NW¼NW¼;
Sec. 34: NE¼, S½NW¼, N½SW¼, N½N½SE¼.

T. 36 N., R. 7 W.,
Sec. 1: W½SW¼NE¼, S½SE¼NW¼;
Sec. 2: Lots 1, 2, 3, SE¼NW¼, S½SE¼;
Sec. 4: Lot 1, SE¼NE¼, E½SE¼;
Sec. 6: S½SE¼NE¼, E½SE¼;
Sec. 12: E½E½, SE¼SW¼, SW¼SE¼;
Sec. 18: NE¼NE¼NE¼, N½SE¼NE¼NE¼;
Sec. 24: E½;
Sec. 28: W½W½NW¼SE¼.

T. 37 N., R. 7 W.,
Sec. 17: Lot 2, SW¼NE¼;
Sec. 20: Lot 7, that portion of Mineral Survey No. 2081 lying in SW¼SW¼, SE¼SE¼;
Sec. 28: W½NW¼, NW¼SW¼;
Sec. 34: SW¼, E½E½SE¼, NW¼NE¼SE¼, W½W½SE¼.

T. 33 N., R. 8 W.,
Sec. 5: Lot 14 in SW¼SW¼;
Sec. 26: SW¼SW¼;
Sec. 30: Lots 3 and 4, E½SW¼, S½SE¼.

T. 34 N., R. 8 W.,
Sec. 2: Lot 1, S½NE¼, NW¼NW¼SW¼;
Sec. 8: SE¼;
Sec. 14: S½NE¼;
Sec. 16: W½;
Sec. 20: All;
Sec. 21: W½NE¼, NW¼, W½SW¼.

T. 35 N., R. 8 W.,
Sec. 4: SE¼SE¼;
Sec. 8: E½E½NE¼SE¼;
Sec. 9: W½NW¼SW¼;
Sec. 16: NW¼NW¼;
Sec. 17: E½SW¼NE¼, E½SW¼, NE¼SE¼, W½SE¼;
Sec. 20: SW¼;
Sec. 36: SW¼NW¼, W½SW¼SE¼.

T. 34 N., R. 9 W.,
Sec. 4: S½SE¼;
Sec. 9: E½E½SW¼.

T. 35 N., R. 9 W.,
Sec. 36: W½NE¼.

Total acreage: Approximately 8,654 acres.

The following lands described above, are patented, having been patented under the Stockraising Homestead Act of December 29, 1916 (39 Stat. 862) with a reservation of all minerals to the United States:

MOUNT DIABLO MERIDIAN, CALIFORNIA

T. 32 N., R. 6 W.,
Sec. 6: Lot 7, SE¼SW¼, S½SE¼;
Sec. 18: Lot 1, NE¼NW¼.

Total acreage: 241.06 acres.

WALTER E. BECK,
Manager.

[F. R. Doc. 59–114; Filed, Jan. 6, 1959; 8:45 a. m.]

[UTAH (I–15)]

UTAH

Notice of Proposed Withdrawal and Reservation of Lands

DECEMBER 23, 1958.

The Civil Aeronautics Administration has filed an application, Serial No. Utah 032932, for the withdrawal of the lands described below, from all forms of appropriation. The applicant desires the land for the purpose of constructing and maintaining storage facilities for snow removal equipment.

For a period of 30 days from the date of publication of this notice, persons having cause may present their objections in writing to the undersigned official of the Bureau of Land Management, Department of the Interior, Post Office Box 777, Salt Lake City, Utah.

If circumstances warrant it, a public hearing will be held at a convenient time and place, which will be announced.

The determination of the Secretary on the application will be published in the FEDERAL REGISTER. A separate notice will be sent to each interested party of record.

The lands involved in the application are:

SALT LAKE MERIDIAN, UTAH

T. 1 N., R. 9 W.
Sec. 12: NE¼SW¼SE¼SE¼.

The above area aggregates 2.5 acres.

VAL B. RICHMAN,
State Supervisor.

[F. R. Doc. 59–115; Filed, Jan. 6, 1959; 8:45 a. m.]

DEPARTMENT OF LABOR

Office of the Secretary

CERTIFICATION OF STATE UNEMPLOYMENT COMPENSATION LAWS TO SECRETARY OF THE TREASURY

Pursuant to section 3304 (a) of the Internal Revenue Code as amended, the unemployment compensation laws of the following States have heretofore been approved:

Alabama	Montana
Alaska	Nebraska
Arizona	Nevada
Arkansas	New Hampshire
California	New Jersey
Colorado	New Mexico
Connecticut	New York
Delaware	North Carolina
District of Columbia	North Dakota
Florida	Ohio
Georgia	Oklahoma
Hawaii	Oregon
Idaho	Pennsylvania
Illinois	Rhode Island
Indiana	South Carolina
Iowa	South Dakota
Kansas	Tennessee
Kentucky	Texas
Louisiana	Utah
Maine	Vermont
Maryland	Virginia
Massachusetts	Washington
Michigan	West Virginia
Minnesota	Wisconsin
Mississippi	Wyoming
Missouri	

In accordance with the provisions of section 3304 (c) of the Internal Revenue Code, and the President's Reorganization Plan No. 2, effective August 20, 1949, I, as Secretary of Labor, hereby certify the foregoing States to the Secretary of the Treasury for the taxable year 1958.

JAMES T. O'CONNELL,
Acting Secretary of Labor.

DECEMBER 31, 1958.

[F. R. Doc. 59–134; Filed, Jan. 6, 1959; 8:47 a. m.]

CERTIFICATION OF STATE LAWS TO SECRETARY OF THE TREASURY PURSUANT TO INTERNAL REVENUE CODE

Whereas, as Secretary of Labor, I have heretofore certified to the Secretary of the Treasury the unemployment compensation laws of the States hereinafter enumerated with respect to the taxable year 1958, as provided in section 3304 of the Internal Revenue Code, as amended; and

Whereas, reduced rates of contributions were allowable under the law of each of said States with respect to the taxable year 1958 only in accordance with the provisions of subsection (a) of section 3303 of said Code;

Now Therefore, Pursuant to section 3303 (b) (1) of said Code, and the President's Reorganization Plan No. 2, effective August 20, 1949, I, as Secretary of Labor, hereby certify to the Secretary of the Treasury the unemployment compensation law of each of the following States for the taxable year 1958:

Alabama	Montana
Alaska	Nebraska
Arizona	Nevada
Arkansas	New Hampshire
California	New Jersey
Colorado	New Mexico
Connecticut	New York
Delaware	North Carolina
District of Columbia	North Dakota
Florida	Ohio
Georgia	Oklahoma
Hawaii	Oregon
Idaho	Pennsylvania
Illinois	Rhode Island
Indiana	South Carolina
Iowa	South Dakota
Kansas	Tennessee
Kentucky	Texas
Louisiana	Utah
Maine	Vermont
Maryland	Virginia
Massachusetts	Washington
Michigan	West Virginia
Minnesota	Wisconsin
Mississippi	Wyoming
Missouri	

JAMES T. O'CONNELL,
Acting Secretary of Labor.

DECEMBER 31, 1958.

[F. R. Doc. 59–135; Filed, Jan. 6, 1959; 8:48 a. m.]

FEDERAL COMMUNICATIONS COMMISSION

[Docket No. 12414 etc.; FCC 58M–1520]

ALKIMA BROADCASTING CO. ET AL.

Order Scheduling Hearing

In re applications of W. Frank Short and Austin E. Harkins d/b as The Alkima Broadcasting Company, West Chester, Pennsylvania, Docket No. 12414, File No. BP–10640; Herman Handloff, Newark, Delaware, Docket No. 12711, File No. BP–12190; Howard Wasserman, West Chester, Pennsylvania, Docket No. 12712, File No. BP–12208; for construction permits.

It is ordered, This 29th day of December 1958, that Charles J. Frederick will preside at the hearing in the above-entitled proceeding which is hereby scheduled to commence on March 12, 1959, in Washington, D. C.

Released: December 31, 1958.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 59–142; Filed, Jan. 6, 1959; 8:50 a. m.]

[Docket Nos. 12600, 12601; FCC 58–1244]

SHELBY COUNTY BROADCASTING CO. AND ROUNSAVILLE OF CINCINNATI, INC. (WCIN)

Memorandum Opinion and Order Amending Issues

In re applications of H. T. Parrott, R. D. Ingram, J. W. Pickett & Edwin L. Rogers d/b as Shelby County Broadcasting Company, Shelbyville, Indiana, Docket No. 12600, File No. BP–11202; Rounsaville of Cincinnati, Inc., (WCIN), Cincinnati, Ohio, Docket No. 12601, File No. BP–11539; for construction permits.

1. The Commission has under consideration the following pleadings: (1) Motion to enlarge issues, filed by Shelby County Broadcasting Company, on October 9, 1958; (2) Opposition of the Commission's Broadcast Bureau, filed on October 17, 1958; (3) Opposition of Rounsaville of Cincinnati, Inc. (WCIN), filed on October 22, 1958.

2. By order published in the FEDERAL REGISTER on September 24, 1958, the Commission designated the above-described mutually exclusive applications for hearing in a consolidated proceeding. The issues relate to the areas and populations which would be served by the applicants; interference caused or received; whether the Shelby application would violate § 3.28 (c) of the Commission's rules, and if so, whether a waiver thereof is warranted; and in the light of section 307 (b) of the Communications Act, which of the applications should be granted.

3. Alleging that the operation proposed by Rounsaville of Cincinnati, Inc., would not provide a minimum field intensity of 25 mv/m at night over the business area of Cincinnati, Shelby County Broadcasting Company moves that the issues herein be enlarged by the addition of an issue to make that determination. The Broadcast Bureau and Rounsaville oppose the motion.

4. Neither the subject pleadings nor the Rounsaville application[1] contain a showing which adequately depicts the extent to which the Rounsaville nighttime proposal complies with the requirements of § 3.188 (b) (1) of the rules as to the minimum field intensity to be provided over the business and factory areas of Cincinnati. The issues, therefore, will be appropriately enlarged.

Accordingly, it is ordered, This 30th day of December 1958, that the motion of Shelby County Broadcasting Company for enlargement of the issues, filed on October 9, 1958, is granted, and that the issues in this proceeding are amended to renumber Issues Nos. 6 and 7 as Issues Nos. 7 and 8, respectively, and to include as Issue No. 6 the following:

6. To determine whether at night the proposal of Rounsaville of Cincinnati

[1] Rounsaville has failed to file with its application a map depicting the business and other districts of Cincinnati in the manner required by FCC Form 301, section V–A, page 2, paragraph 16 (b).

would comply with the requirements of § 3.188 (b) (1) of the Commission's rules.

Released: January 2, 1959.

FEDERAL COMMUNICATIONS COMMISSION,[2]
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 59-143; Filed, Jan. 6, 1959; 8:50 a. m.]

[Docket No. 12603; FCC 58M-1527]

WILLIAM F. HUFFMAN RADIO, INC. (WFHR)

Order Scheduling Hearing

In re application of William F. Huffman Radio, Inc. (WFHR), Wisconsin Rapids, Wisconsin, Docket No. 12603, File No. BP-11986; for construction permit.

It is ordered, This 31st day of December 1958, that the hearing in the above-entitled matter presently continued without date is hereby scheduled to commence at 10:00 a. m., January 16, 1959, in the Commission's offices in Washington, D. C.

Released: December 31, 1958.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 59-144; Filed, Jan. 6, 1959; 8:50 a. m.]

MOO MOOS TAXICAB CO.

Order Continuing Hearing

In the matter of Frank Germano d/b as MOO MOOS Taxicab Company, 319 19th Street, Watervliet, New York, Docket No. 12649; order to show cause why there should not be revoked the license of Taxicab Radio Station KEE-207.

It appearing, that the Chief, Safety and Special Radio Services Bureau, Federal Communications Commission, has filed a motion on December 30, 1958, requesting that the proceedings in the above-entitled matter be dismissed;

It is ordered, This 31st day of December 1958, that the hearing in this matter now scheduled to commence on January 7, 1959, is continued without date, pending action on the aforementioned motion to dismiss proceedings.

Released: December 31, 1958.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 59-145; Filed, Jan. 6, 1959; 8:50 a. m.]

[Docket No. 12713; FCC 58M-1517]

INTRASTATE BROADCASTERS

Order Scheduling Hearing

In re application of Harriscope, Inc., Abbot London & Saul R. Levine, d/b as Intrastate Broadcasters, Pomona-Claremont, California, Docket No. 12713, File No. BP-11687; for construction permit.

It is ordered, This 29th day of December 1958, that Basil P. Cooper will preside at the hearing in the above-entitled proceeding which is hereby scheduled to commence on March 12, 1959, in Washington, D. C.

Released: December 31, 1958.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 59-146; Filed, Jan. 6, 1959; 8:50 a. m.]

[Docket Nos. 12714, 12715; FCC 58M-1519]

JOHN H. PHIPPS AND GEORGIA STATE BOARD OF EDUCATION

Order Scheduling Hearing

In re applications of John H. Phipps, Waycross, Georgia, Docket No. 12714, File No. BPCT-2423; Georgia State Board of Education, Waycross, Georgia, Docket No. 12715, File No. BPCT-2501; for construction permits for new television broadcast stations.

It is ordered, This 29th day of December 1958, that Forest L. McClenning will preside at the hearing in the above-entitled proceeding which is hereby scheduled to commence on March 10, 1959, in Washington, D. C.

Released: December 31, 1958.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 59-147; Filed, Jan. 6, 1959; 8:50 a. m.]

[Docket Nos. 12720, 12721; FCC 58-1250]

VALLEY BROADCASTING CO. AND MINERS BROADCASTING SERVICE, INC.

Order Designating Applications for Consolidated Hearing on Stated Issues

In re applications of Valley Boadcasting Company, Lehighton, Pennsylvania, Docket No. 12720, File No. BP-11651; Miners Broadcasting Service, Inc., Kingston, Pennsylvania, Docket No. 12721, File No. BP-11795; for construction permits.

At a session of the Federal Communications Commission held at its offices in Washington, D. C., on the 30th day of December 1958;

The Commission having under consideration the above-captioned applications of the Valley Broadcasting Company and Miners Broadcasting Service, Inc., each for a construction permit for a new standard broadcast station to operate on 1150 kilocycles with a power of one kilowatt, directional antenna, daytime only, at Lehighton and Kingston, Pennsylvania, respectively;

It appearing, that, except as indicated by the issues specified below, both applicants are legally, financially, technically and otherwise qualified to operate the proposed stations but that the simultaneous operation of both proposals would result in mutually destructive interference; that it has not yet been determined whether the antenna proposed by the Valley Broadcasting Company would constitute a hazard to air navigation; and that, in view of interests held by parties to both applications in standard broadcast stations located in the State of Pennsylvania, the question obtains as to whether a grant of either application would be in contravention of § 3.35 of the rules of the Commission on multiple ownership; and

It further appearing, that pursuant to section 309 (b) of the Communications Act of 1934, as amended, the applicants were advised by letter dated October 7, 1958, of the aforementioned deficiencies and that the Commission was unable to conclude that a grant of either of the applications would be in the public interest; and

It further appearing, that, in a reply dated November 6, 1958, to the Commission's letter, counsel for the Valley Broadcasting Company contended that, while the officers and some of the shareholders of the Valley Broadcasting Company are officers and shareholders of the licensee of Station WNAK and the proposed service area overlaps a portion of the service area of WNAK, there is no overlap of the 2 mv/m contours of the proposed operation and WNAK and, therefore, a grant of the application would not be in contravention of § 3.35 of the rules; and

It further appearing, that, in a reply dated November 3, 1958, to the Commission's letter, Miners Broadcasting Service, Inc., stated that there would be only an insignificant overlap of the proposed service area and the service areas of existing stations of the Miners Broadcasting Service, Inc., in Pottsville (WPAM) and Lansford (WLSH), Pennsylvania, but the proposed service area would not overlap the service area of the applicant's station in Ambridge, Pennsylvania (WMBA), and that no useful purpose would be served by including an issue with respect to § 3.35 in a hearing order; and

It further appearing, that the Commission is unable to make a determination concerning the aforementioned multiple ownership question on the basis of the data before it and is of the opinion that said question must be resolved in the hearing ordered below; and

It further appearing, that, on December 9, 1958, the application of the Valley Broadcasting Company was amended to specify a new antenna site, and it has not yet been determined whether the antenna at the new site would constitute a hazard to air navigation; and

It further appearing, that the Commission, after consideration of the above, is of the opinion that a hearing is necessary;

It is ordered, That, pursuant to section 309 (b) of the Communications Act of 1934, as amended, the applications are designated for hearing in a consolidated

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[2] Commissioners Bartley, Craven and Cross dissenting.

proceeding, at a time and place to be specified in a subsequent order, upon the following issues:

1. To determine the areas and populations which would receive primary service from the proposed operations and the availability of other primary service to such areas and populations.

2. To determine whether a grant of either application would be in contravention of the provisions of § 3.35 of the Commission's rules.

3. To determine whether the antenna proposed by the Valley Broadcasting Company would constitute a hazard to air navigation.

4. To determine, in the light of section 307 (b) of the Communications Act of 1934, as amended, which of the proposed operations would better provide a fair, efficient and equitable distribution of radio service.

5. To determine, in the light of the evidence adduced pursuant to the foregoing issues, which of the instant applications should be granted.

It is further ordered, That, to avail themselves of the opportunity to be heard, the applicants herein, pursuant to § 1.140 of the Commission's rules, in person or by attorney, shall, within twenty (20) days of the mailing of this order, file with the Commission, in triplicate, a written appearance stating an intention to appear on the date fixed for the hearing and present evidence on the issues specified in this order.

It is further ordered, That the issues in this proceeding may be enlarged by the Examiner, on his own motion or on petition properly filed by a party to the proceeding and upon sufficient allegations of fact in support thereof, by the addition of the following issue: "To determine whether the funds available to the applicant will give reasonable assurance that the proposals set forth in the application will be effectuated."

Released: January 2, 1959.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 59-148; Filed, Jan. 6, 1959; 8:50 a. m.]

FEDERAL POWER COMMISSION

[Docket No. G-11198]

REPUBLIC NATURAL GAS CO.

Notice of Application and Date of Hearing

DECEMBER 30, 1958.

Take notice that Republic Natural Gas Company (Applicant), an independent producer, with its principal place of business at Dallas, Texas, filed an application on October 5, 1956, pursuant to section 7 (b) of the Natural Gas Act, for authority to abandon the sale of natural gas to United Gas Pipe Line Company produced from Applicant's and Forest Oil Corporation's No. 1 Well in the State Tract No. 752, Nueces County, Texas, subject to the jurisdiction of the Commission, all as more fully represented in the application which is on file with the Commission and open to public inspection.

Applicant's interest in said tract is included among lands covered by a basic contract dated December 28, 1934, as amended between Saxet Gas Company (Applicant's predecessor in interest) and Houston Gulf Gas Company (United's predecessor in interest), which contract is on file with the Commission as Applicant's FPC Gas Rate Schedule No. 15.

By order of the Commission issued April 30, 1956, the Applicant was authorized to continue operations and sales of natural gas to United from the tract just mentioned along with sales from other lands in Docket No. G-7648.

Applicant states that the well was recently completed between 9,783 and 9,792 feet beneath the surface, but that only a small quantity of gas is available for delivery; and that Applicant, therefore, requested United to release Applicant's 50 percent interest in the subject gas from the terms of the contract. By an agreement dated August 9, 1956, United released Applicant's interest in said gas from the contract.

This matter is one that should be disposed of as promptly as possible under the applicable rules and regulations and to that end:

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act, and the Commission's rules of practice and procedure, a hearing will be held on January 27, 1959 at 9:30 a. m., e. s. t., in a Hearing Room of the Federal Power Commission, 441 G Street NW., Washington, D. C., concerning the matters involved in and the issues presented by such application: *Provided, however,* That the Commission may, after a non-contested hearing, dispose of the proceedings pursuant to the provisions of § 1.30 (c) (1) or (2) of the Commission's rules of practice and procedure. Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicant to appear or be represented at the hearing.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington 25, D. C., in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before January 21, 1959. Failure of any party to appear at and participate in the hearing shall be construed as waiver of and concurrence in omission herein of the intermediate decision procedure in cases where a request therefor is made.

[SEAL] JOSEPH H. GUTRIDE,
Secretary.

[F. R. Doc. 59-116; Filed, Jan. 6, 1959; 8:45 a. m.]

[Docket No. E-6857]

BLACK HILLS POWER AND LIGHT CO.

Notice of Application

DECEMBER 30, 1958.

Take notice that on December 22, 1958, an application was filed with the Federal Power Commission pursuant to section 204 of the Federal Power Act by Black Hills Power and Light Company ("Applicant"), a corporation organized under the laws of the State of South Dakota and doing business in the States of South Dakota and Wyoming, with its principal business office at Rapid City, South Dakota, seeking an order authorizing the issuance of 46,887 additional shares of its $1 par value common stock. Applicant has presently 313,236 shares of common stock outstanding and 33,325 shares of cumulative preferred stock 4.56 percent Series outstanding. Applicant proposes to declare a two percent stock dividend on its outstanding common stock and to redeem the shares of its 4.56 percent cumulative preferred stock. Such preferred stock is presently convertible into shares of common stock at the rate of 1.02 shares of common stock for each share of preferred stock. Applicant states that if all shares of the preferred stock are converted rather than redeemed, Applicant will be required to issue 39,942 shares of common stock in addition to 6,945 shares of common stock to meet the stock dividend of 2 percent or a total of 46,887 shares of common stock. Should fractional shares be required to meet the stock dividend, such may be paid in cash or scrip. Applicant also proposes to enter into a stand-by agreement with Dillon, Read & Co., Inc., acting on behalf of a group of purchasers for the purchase by the group from the holders of Applicant's 4.56 percent cumulative preferred stock of such shares as the holders thereof do not desire to surrender for redemption or conversion, pursuant to the call for redemption, at a price slightly in excess of the redemption price. Any shares of such preferred stock so acquired by Dillon, Read & Co., Inc. will be surrendered to Applicant for conversion. Applicant has not asked for competitive bids in connection with said stand-by agreement. The proposed issuance of common stock as a stock dividend and in conversion of preferred stock will not involve receipt of any proceeds by Applicant.

Any person desiring to be heard or to make any protest with reference to said application should, on or before the 12th day of January 1959, file with the Federal Power Commission, Washington 25, D. C., petitions or protests in accordance with the requirements of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10). The application is on file and available for public inspection.

[SEAL] JOSEPH H. GUTRIDE,
Secretary.

[F. R. Doc. 59-117; Filed, Jan. 6, 1959; 8:45 a. m.]

[Docket No. G-17354 etc.]

SUN OIL CO. ET AL.

Order for Hearings and Suspending Proposed Changes in Rates [1]

DECEMBER 30, 1958.

In the matter of Sun Oil Company (Operator), et al., Docket No. G-17354;

[1] This omnibus order does not provide for the consolidation of hearing or disposition of the separately docketed matters, nor should it be so construed.

Murchison Bros. & Denius, Docket No. G–17355; Midhurst Oil Corporation, Docket No. G–17356; Acco Oil & Gas Company (Operator), et al., Docket No. G–17357; Associated Oil & Gas Company (Operator), et al., Docket No. G–17358; Midstates Oil Corporation, Docket No. G–17359; A. G. Matlage, Docket No. G–17360; John F. Merrick, Docket No. G–17361; Mound Company, et al., Docket No. G–17362; Roy R. Gardner (Operator), et al., Docket No. G–17363; Rycade Oil Corporation, Docket No. G–17364; The Atlantic Refining Company, Docket No. G–17365; David A. Schlachter, et al., Docket No. G–17366.

Thirteen sellers[2] of natural gas to Tennessee Gas Transmission Company have tendered for filing proposed changes in their presently effective rate schedules for sales of natural gas subject to the jurisdiction of the Commission. Each Respondent proposes January 1, 1959, as the date of effectiveness for its (his) respective change(s). The proposed changes, which constitute increased rates and charges, are contained in the following designated filings:

Respondent	Rate schedule	Supp. No.	Date of notice of change	Date tendered
1. Sun Oil Company (operator) et al	70	4	Nov. 25, 1958	Dec. 1, 1958
2. Murchison Bros. & Denius	1	6	Nov. 28, 1958	Do.
3. Midhurst Oil Corporation	3	5	Undated	Nov. 28, 1958
4. Acco Oil & Gas Company (operator) et al	1	2	do	Do.
5. Associated Oil & Gas Company (operator) et al	1	6	Nov. 24, 1958	Do.
6. Midstates Oil Corporation	59	1	Undated	Do.
7. A. G. Matlage	1	3	do	Dec. 1, 1958
8. John F. Merrick	1	5	do	Do.
9. Mound Company et al	9	4	do	Do.
Mound Company et al	10	7	do	Do.
10. Roy R. Gardner (Operator) et al	1	3	do	Do.
Roy R. Gardner (Operator) et al	2	3	do	Do.
11. Rycade Oil Corporation	2	4	do	Dec. 2, 1958
12. The Atlantic Refining Company	152	2	Nov. 26, 1958	Dec. 1, 1958
13. David A. Schlachter et al	1	6	Nov. 17, 1958	Nov. 17, 1958

In support of the proposed redetermined rate increases, all of the Respondents state that the increased price is provided for by the contract and was arrived at through arm's-length bargaining. In addition, Sun Oil Company (Operator), et al., and Roy R. Gardner (Operator), et al., state that the price filed does not exceed the value of the gas in the area. Midhurst Oil Corporation, Acco Oil & Gas Company (Operator), et al., John F. Merrick and Rycade Oil Corporation state that the increase is needed to stimulate competition and the price is just and reasonable. They further state the increase is needed because of increased cost in operations and that the proposed price is justified on either a field price, market price or commodity value determination. The Atlantic Refining Company states that the increase is economically desirable to the buyer and seller and is in the best interests of the public at large. Midstates Oil Corporation incorporates by reference a "Motion of Midstates Oil Corporation to Permit Changes in Rate Schedules to Become Effective, Discharge Undertakings to Refund, and Terminate Proceedings," filed November 17, 1958, and makes special reference to Exhibit C thereto consisting of cost of service study of the South Texas Area involved in this sale.

The increased rates and charges so proposed have not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon hearings concerning the lawfulness of the several proposed changes and that the above-designated supplements be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), public hearings be held upon dates to be fixed by notices from the Secretary concerning the lawfulness of the several proposed increased rates and charges contained in the above-designated supplements.

(B) Pending hearings and decision thereon, the aforesaid supplements each hereby are suspended until June 1, 1959, five months from the requested effective date, with the exception of Rycade Oil Corporation which is hereby suspended until June 2, 1959, five months from the first date after expiration of the required thirty days' notice, and thereafter until each is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplements hereby suspended, nor the rate schedules sought to be altered thereby, shall be changed until these proceedings have been disposed of or until the periods of suspension have expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59–118; Filed, Jan. 6, 1959; 8:46 a. m.]

[2] Referred to herein as Respondents.

[Docket No. G–15537]

HOPE PRODUCING CO. ET AL.

Notice of Application and Date of Hearing

DECEMBER 31, 1958.

Take notice that Hope Producing Company, et al.,[1] (Applicant), a Delaware corporation with its principal place of business in Monroe, Louisiana, filed an application on July 23, 1958, and supplements thereto on September 18 and November 17, 1958, respectively, in Docket No. G–15537, pursuant to section 7 (b) of the Natural Gas Act for authorization to abandon service to Arkansas Louisiana Gas Company (Ark La) from gas producing units in the Ada Field, Webster and Bienville Parishes, Louisiana, covered by a contract dated March 13, 1951, as amended, on file as Hope Producing Company (Operator), et al., FPC Gas Rate Schedule No. 1, providing for the sale of a minimum of 8,000,000 Mcf of gas annually by Hope to Ark La, subject to the jurisdiction of the Commission, all as more fully represented in the application on file with the Commission and open to public inspection.

Applicant, proposes to abandon service to Ark La in order that it may assertedly sell the subject gas in intrastate commerce[2] to Southwestern Electric Power Company (Southwestern)[3] for use in Southwestern's Lieberman and Arsenal Hill electric generating plants at Shreveport and Mooringsport, Louisiana, respectively. Such sale is to be made pursuant to a contract and amendment thereto dated March 11, 1958[4] between Hope and Southwestern, and separate agreements of various dates in June and July 1958, with the co-owners incorporating the terms and conditions of said March 11, 1958 contract, as amended.

The application recites Ark La will transport and deliver the subject gas to Southwestern's Lieberman and Arsenal Hill Plants through Ark La's existing pipeline system under an agreement between said parties dated March 26, 1958. Ark La has dedicated up to 13,000,000

[1] Hope files individually and as operator for the following non-signatory co-owners: Hunt Oil Company, A. R. Wherritt, W. L. Pickens, S. M. Aronson, J. P. Morgan & Company, Incorporated, Executor of the Estate of Allan L. Melhado, Hugh W. Long, D. S. Kendrick, A. M. Simon, Fred Simon, Dixon Carroll, Clem S. Clarke and Pan American Petroleum Corporation. Said parties by separate joinders adopt Hope's application herein.

[2] The gas will be produced and consumed in Louisiana, although it will be transported in a commingled stream with out-of-state gas.

[3] Formerly Southwestern Gas and Electric Company. The name was changed on September 26, 1958.

[4] Exhibit No. 2 to the subject application. This contract does not include certain non-producing acreage formerly covered in Hope's March 13, 1951 contract with Ark La, as amended, in which Hope does not have an interest, but does include additional acreage not committed to the 1951 contract.

Mcf of its annual pipeline capacity for this service.

The application further reflects Ark La currently supplies Southwestern with gas for the presently installed facilities at its Lieberman, Arsenal Hill and Lone Star (at Lone Star, Texas) generating plants under an agreement dated April 4, 1952. However, Southwestern is installing additional 100,000 Kw units at the Lieberman and Arsenal Hill Plants (to go into operation in March 1959 and March 1960, respectively) for which it requires gas not available under said 1952 contract. To obtain a firm supply of gas for these two plants with their additional units, Southwestern executed the aforementioned contract of March 11, 1958, as amended with Hope, and the related agreements with the co-owners, which contract provides for the buyer to take a minimum of 8,800,000 Mcf annually and for a primary term expiring January 1, 1978, but subject to cancellation as of January 1, 1968 if Southwestern does not elect to pay the price to be redetermined at that time. Thus, Southwestern alleges a firm supply of gas for the two plants is assured at least until January 1, 1968. Gas for Southwestern's Lone Star Plant will continue to be supplied by Ark La under the April 4, 1952 contract until July 9, 1962, at which time such contract expires.

Applicant states that by letter to Hope dated June 16, 1958 (Exhibit No. 3), Ark La states that it concurs in and will support the proposed abandonment of service by Hope, et al., for the following reasons: (1) Ark La will retain the Ada Field reserves attached to its system and such reserves will be dedicated to one of its system customers; (2) Ark La is unable to offer Hope a price for its gas sufficient to induce Hope to renew their contract, because of "favored nations" provisions in a number of Ark La's other gas purchase contracts, and the proposed arrangement will avoid the unfavorable effect on Ark La's reserve situation otherwise consequent on expiration of the contract; (3) Southwestern's continued use of Ark La's system facilities will be assured for the term of the Hope-Southwestern contract; (4) the proposed arrangement will minimize the purchase by Ark La from another pipeline company of a portion of Southwestern's requirements for its Arsenal Hill Plant at a price which now exceeds Ark La's price to Southwestern[5] and (5) no problems with regard to interruptibility of service to Southwestern are anticipated because of the location of the plants close to many gas producing fields and numerous interconnected pipelines on Ark La's system.

By letter dated June 16, 1958, to Hope (Exhibit No. 4), Southwestern asserts that its investigations into a gas supply for its power plants have been going on for seven years, and none of such investigations ever showed that it could purchase a large gas supply in the ground close to its plants until the Hope gas in the Ada Field became available, the other large supplies being at distant points from which the cost of transportation was too great and the continuity of supply too uncertain. Southwestern compares the proposed arrangement with an alternate arrangement available to it under which it could have purchased the gas required for its two additional 100,000 Kw units from United Gas Pipe Line Company without disturbing its existing contract with Ark La, which comparison shows the proposed arrangement to be more favorable.

Hope was authorized on May 14, 1957, in Docket No. G–4557 to render the service to Ark La herein proposed to be abandoned.

Applicant further represents that Southwestern will require approximately 10,531,000 Mcf for its Lieberman and Arsenal Hill Plants in 1959, of which 7,951,000 Mcf would be purchased for the present facilities at a total price of 17.0 cents per Mcf and 2,580,000 Mcf for the proposed facilities at a total price of 21.871 cents per Mcf (both prices at 14.9 psia and exclusive of tax reimbursement). Of said total requirements, Hope et al. would supply an estimated 10,483,000 Mcf and Ark La 48,000 Mcf. The volume to be supplied annually by Hope et al. is anticipated to remain constant at 10,483,000 Mcf, whereas the volume to be supplied by Ark La is to increase as shown below:

Year	Southwestern's total requirements (MMcf)	From Hope et al. (MMcf)	From Ark La (MMcf)
1960	12,800	10,483	2,317
1961	15,372	10,483	4,889
1962	15,465	10,483	4,982
1963	15,911	10,483	5,428
Thereafter	15,500	10,483	5,017

This matter is one that should be disposed of as promptly as possible under the applicable rules and regulations and to that end:

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act, and the Commission's rules of practice and procedure, a hearing will be held on January 26, 1959, at 9:30 a. m., e. s. t., in a hearing room of the Federal Power Commission, 441 G Street, NW., Washington, D. C., concerning the matters involved in and the issues presented by such application: *Provided, however,* That the Commission may, after a non-contested hearing, dispose of the proceedings pursuant to the provisions of § 1.30 (c) (1) or (2) of the Commission's rules of practice and procedure. Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicant to appear or be represented at the hearing.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington 25, D. C., in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before January 20, 1959. Failure of any party to appear at and participate in the hearing shall be construed as waiver of and concurrence in omission herein of the intermediate decision procedure in cases where a request therefor is made.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59–120; Filed, Jan. 6, 1959; 8:46 a. m.]

[5] Ark La is contractually obligated until March 1964, to purchase 50 percent of its requirements (up to 9,000 Mcf per day) for Southwestern's Arsenal Hill Plant from United Gas Pipe Line Company under United's filed Rate Schedule IND–C (19.6 cents per Mcf at 14.9 psia). Ark La cancelled effective July 1, 1957, a similar contract with United covering the Lieberman Plant.

[Docket No. G–17269, etc.]

AMERICAN PETROFINA COMPANY OF TEXAS ET AL.

Order for Hearings and Suspending Proposed Changes in Rates

DECEMBER 30, 1958.

In the matters of American Petrofina Company of Texas, Docket No. G–17269; Acco Oil & Gas Company (Operator), et al., Docket No. G–17270; Midhurst Oil Corporation (Operator), et al., Docket No. G–17271; Anderson and Cooke, et al., Docket No. G–17272; John G. Merrick (Operator), et al., Docket No. G–17273; Sun Oil Company, Docket No. G–17274; The Ohio Oil Company, Docket No. G–17275; Plymouth Oil Company, Docket No. G–17276; Phillips Petroleum Company, Docket No. G–17277; Shell Oil Company, Docket No. G–17278; Phillips Petroleum Company (Operator), et al., Docket No. G–17280; N. C. Ginter, et al., Docket No. G–17281; Oil & Gas Property Management, Inc., Docket No. G–17282; The Texas Company, Docket No. G–17283; Sunray Mid-Continent Oil Company, Docket No. G–17284; Clif Mock Company, Docket No. G–17285; The British-American Oil Producing Company, Docket No. G–17286; Gulf Oil Corporation, Docket No. G–17290; The Atlantic Refining Company, Docket No. G–17291.

The nineteen afore-named Respondents have tendered thirty-six Notices of Change[1] which propose increased rates and charges in their presently effective rate schedules relating to sales of natural gas subject to the jurisdiction of the Commission. All Respondents propose an effective date of January 1, 1959. Tennessee Gas Transmission is the purchaser under each rate schedule.

The natural gas which is the subject of Respondents' instant tenders is produced from various fields in Victoria, Calhoun and Goliad Counties in Texas Railroad District No. 2 and in Wharton, Liberty, San Jacinto, Harris, Colorado, Montgomery and Austin Counties in Texas Railroad District No. 3. Said Notices of Change were filed and designated as hereinafter tabularly shown.

[1] This omnibus order does not provide for the consolidation for hearing or disposition of the several matters which are the subject of this order, nor should it be so construed.

Respondent	Rate No.	Schedule supp. No.	Notice of change dated	Date tendered
1. American Petrofina Company of Texas	1	9	Undated	Dec. 1, 1958
2. Acco Oil & Gas Company (Operator) et al	2	2	do	Nov. 28, 1958
3. Midhurst Oil Corporation (Operator) et al	1	6	do	Do.
4. Anderson and Cooke et al	1	8	do	Do.
5. John F. Merrick (Operator) et al	3	1	do	Dec. 1, 1958
6. Sun Oil Company	33	5	Nov. 26, 1958	Do.
7. Sun Oil Company	12	9	do	Do.
8. The Ohio Oil Company	11	9	June 5, 1958	Do.
9. The Ohio Oil Company	11	10	Undated	Do.
10. The Ohio Oil Company	8	4	June 5, 1958	Do.
11. The Ohio Oil Company	8	5	Undated	Do.
12. Plymouth Oil Company	2	5	Nov. 19, 1958	Nov. 24, 1958
13. Phillips Petroleum Company	200	10	Oct. 7, 1958	Do.
14. Phillips Petroleum Company	200	11	Nov. 20, 1958	Do.
15. Shell Oil Company	132	11	Nov. 21, 1958	Do.
16. Shell Oil Company	6	5	do	Do.
17. Shell Oil Company	143	2	do	Do.
18. Phillips Petroleum Company (Operator) et al	36	7	Nov. 24, 1958	Nov. 26, 1958
19. Phillips Petroleum Company (Operator) et al	231	11	Oct. 7, 1958	Nov. 28, 1958
20. Phillips Petroleum Company (Operator) et al	231	12	Nov. 26, 1958	Do.
21. Phillips Petroleum Company (Operator) et al	209	10	Oct. 7, 1958	Do.
22. Phillips Petroleum Company (Operator) et al	209	11	Nov. 26, 1958	Do.
23. N. C. Ginter et al	2	10	Nov. 19, 1958	Nov. 25, 1958
24. Oil & Gas Property Management, Inc	3	5	Undated	Nov. 26, 1958
25. Oil & Gas Property Management, Inc	1	5	do	Do.
26. The Texas Company	141	3	do	Nov. 28, 1958
27. The Texas Company	137	2	do	Do.
28. Sunray Mid-Continent Oil Company	37	5	Oct. 7, 1958	Nov. 24, 1958
29. Sunray Mid-Continent Oil Company	37	6	Nov. 26, 1958	Nov. 28, 1958
30. Clif Mock Company	1	1	Nov. 24, 1958	Do.
31. The British-American Oil Producing Company	16	2	do	Do.
32. Gulf Oil Corporation	114	5	Nov. 21, 1958	Nov. 24, 1958
33. Gulf Oil Corporation	24	4	do	Do.
34. Gulf Oil Corporation	28	5	do	Do.
35. Gulf Oil Corporation	25	4	do	Do.
36. The Atlantic Refining Company	124	4	Nov. 20, 1958	Do.

In support of the proposed redetermined rate increases Respondents state that such are predicated upon contractual covenants which provide for price redeterminations at this time and that the prices proposed are equal to the average of the three highest currently being charged within the applicable railroad districts. Respondents also state such levels are not in excess of the fair market price for gas of like quality in the same respective areas.

Added support for the increased prices is set out by certain of the Respondents. Sunray Mid-Continent states that the value of gas as a fuel is greatly in excess of the proposed price. Shell alleges that the redetermination provision is an important element in its consideration under the contract. Texas Company, citing certain testimony in Docket No. G–8969, alleges that the proposed rate level will not fully compensate for the increased costs. Phillips, citing Exhibit Nos. 282, 284 and 324 in Docket Nos. G–1148, et al. states these filings will decrease the jurisdictional gas revenue deficiency and N. C. Ginter states that the redetermined rate differential will not fully compensate for nor offset losses due to the declining purchasing power of the dollar.

The increased rates and charges so proposed have not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon hearings concerning the lawfulness of the several proposed changes and that the above-designated supplements be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), public hearings be held upon dates to be fixed by notices from the Secretary concerning the lawfulness of the several proposed increased rates and charges contained in the above-designated supplements.

(B) Pending hearings and decision thereon, the aforesaid supplements each hereby are suspended until June 1, 1959, and thereafter until each is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplements hereby suspended, nor the rate schedules sought to be altered thereby, shall be changed until these proceedings have been disposed of or until the periods of suspension have expired, unless otherwise ordered by the Commission.

(D) Interested state commissions may participate as provided by § 1.8 or 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59–119; Filed, Jan. 6, 1959; 8:46 a. m.]

[Docket No. G–16523]

B. H. PUTNAM, JR., ET AL.

Notice of Application and Date of Hearing

DECEMBER 31, 1958.

Take notice that B. H. Putnam, Jr., Operator, et al., (Applicants)[1] on October 2, 1958, filed an application in Docket No. G–16523, pursuant to section 7 of the Act, for a certificate of public convenience and necessity authorizing Applicants to continue service to Hope Natural Gas Company (Hope) from the Putnam Gas Field, Wood County, West Virginia, previously rendered by B. H. Putnam, Operator, pursuant to a contract dated February 15, 1952, on file as B. H. Putnam, et al., FPC Gas Rate Schedule No. 1, subject to the jurisdiction of the Commission, all as more fully described in the application on file with the Commission and open to public inspection.

By separate instruments of assignment dated July 11, 1958, B. H. Putnam assigned ½ of his undivided working interest in acreage dedicated to the aforementioned contract, including wells and equipment thereon, to B. H. Putnam, Jr., who succeeded him as operator, and the remaining ½ interest to William H. Putnam, subject to said contract and to an operating agreement covering the Putnam Field.

Concurrently with the subject application, Applicants filed a notice to succession to B. H. Putnam, et al., FPC Gas Rate Schedule No. 1 together with the aforementioned assignments.

The application recites, B. H. Putnam, Operator, was authorized on July 13, 1955, in Docket No. G–5616 to render the service to Hope now proposed to be continued by Applicants.

This matter is one that should be disposed of as promptly as possible under the applicable rules and regulations and to that end:

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act, and the Commission's rules of practice and procedure, a hearing will be held on January 28, 1959, at 9:30 a. m., e. s. t., in a hearing room of the Federal Power Commission, 441 G Street NW., Washington, D. C., concerning the matters involved in and the issues presented by such application: *Provided, however,* That the Commission may, after a non-contested hearing, dispose of the proceedings pursuant to the provisions of § 1.30 (c) (1) or (2) of the Commission's rules of practice and procedure. Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicants to appear or be represented at the hearing.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington 25, D. C., in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before January 20, 1959. Failure of any party to appear at and participate in the hearing shall be construed as waiver of and concurrence in omission herein of the intermediate decision procedure in cases where a request therefor is made.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59–121; Filed, Jan. 6, 1959; 8:46 a. m.]

[1] The "et al." parties are not listed in the application. However, there are 34 co-owners who are signatories to the contract involved in addition to B. H. Putnam, the former operator and predecessor in interest of B. H. Putnam, Jr., and William H. Putnam.

[Docket No. G–17313, etc.]

CITIES SERVICE OIL CO ET AL.

Order for Hearings and Suspending Proposed Changes In Rates

DECEMBER 31, 1958.

In the matters of Cities Service Oil Company, Docket No. G–17313; Herman Brown, Docket No. G–17314; Pan American Petroleum Corporation (Operator), et al., Docket No. G–17315; Shell Oil Company, Docket No. G–17317; J. M. Huber Corporation, Docket No. G–17318; Vernon F. Taylor, Inc., Docket No. G–17319; Hughes Seewald, Docket No. G–17320; Westhoma Oil Company, Docket No. G–17322; The Superior Oil Company, Docket No. G–17323; Excelsior Oil Corporation, Docket No. G–17324; Excelsior Oil Corporation (Operator), et al., Docket No. G–17325; Kerr-McGee Oil Industries, Inc., Docket No. G–17326; Stevens County Oil and Gas Company, Docket No. G–17327; General Crude Oil Company, Docket No. G–17328; The Pure Oil Company, Docket No. G–17329.

The proposed changes hereinafter designated, which constitute increased rates and charges in presently effective rate schedules for sales of natural gas subject to the jurisdiction of the Commission, have been tendered for filing by the above-named Respondents. In each filing the purchaser is Colorado-Interstate Gas Company, and the Respondents have proposed January 1, 1959, as the effective date of the changes with the exception of Hughes Seewald, who proposed January 7, 1959, as the effective date of his proposed change.[1]

Respondent	Rate schedule No.	Supp. No.	Notice of change dated	Date tendered
1. Cities Service Oil Company (Cities Service)	[2] 125		(Contract) Nov. 10, 1958	Dec. 1, 1958
2. Cities Service Oil Company	[2] 125	1	(Letter) Nov. 10, 1958	Do.
3. Cities Service Oil Company	[3] 126		(Contract) Nov. 11, 1958	Do.
4. Cities Service Oil Company	[3] 126	1	(Letter) Nov. 11, 1958	Do.
5. Cities Service Oil Company	91	14	Nov. 28, 1958	Do.
6. Herman Brown (Brown)	5	2	Undated	Do.
7. Pan American Petroleum Corporation (Operator) et al. (Pan American).	130	3	Nov. 28, 1958	Do.
8. Shell Oil Company (Shell)	85	3	Dec. 1, 1958	Dec. 4, 1958
9. Shell Oil Company	146	1	do	Do.
10. J. M. Huber Corporation (Huber)	18	6	Undated	Dec. 1, 1958
11. J. M. Huber Corporation	3	2	do	Do.
12. J. M. Huber Corporation	33	3	do	Do.
13. Vernon F. Taylor, Inc. (Taylor)	1	2	Dec. 1, 1958	Dec. 4, 1958
14. Hughes Seewald (Seewald)	1	2	Undated	Dec. 3, 1958
15. Westhoma Oil Company (Westhoma)	1	1	Dec. 1, 1958	Dec. 4, 1958
16. The Superior Oil Company (Superior)	29	4	Nov. 26, 1958	Dec. 1, 1958
17. Excelsior Oil Corporation (Excelsior)	4	3	Undated	Do.
18. Excelsior Oil Corporation (Operator) et al	5	5	do	Do.
19. Kerr-McGee Oil Industries, Inc. (Kerr-McGee).	28	8	Nov. 26, 1958	Do.
20. Stevens County Oil and Gas Company (Stevens).	24	7	Nov. 28, 1958	Do.
21. General Crude Oil Company (General Crude)	3	1	Dec. 1, 1958	Dec. 2, 1958
22. The Pure Oil Company (Pure)	36	2	Undated	Dec. 3, 1958

[2] Supersedes Cities Service Oil Company's FPC Gas Rate Schedules Nos. 73, 74, 87 (insofar as it pertains to Hugoton Field), and 92, as amended, and consolidates them under the proposed rate schedule.
[3] Supersedes Cities Service Oil Company's FPC Gas Rate Schedules Nos. 87 (insofar as it pertains to Greenwood Field) and 88, as amended, and consolidates them under the proposed rate schedule.

In support of the consolidation of rate schedules, Cities Service states that it will effect better operations and update said contracts to reflect existing conditions and result in simplification of administrative, accounting, and operational problems and reduce field expense on behalf of the purchaser. In support of its proposed rate increase, Cities Service states that the increase in rates will be compensated for by certain provisions in the new contract, which tends to favor the purchaser.

In support of the remaining proposed rate increases, the Respondents state that the rate represents the contract price that was negotiated in good faith and at arm's-length. They further state that the rate is just and reasonable and is needed to enable them to receive a higher return contemporaneously with the inevitable increase in production, exploration, development, operating, and maintenance costs occurring as field pressure and deliverability decline. In addition, Pan American cites the percentage increases in wholesale price index, structural steel shapes, tubular goods, salaries, drilling, and exploration costs. Excelsior further states that it had a net income loss of $3,723 and $2,694, respectively, from January 1, 1958 to October 1, 1958, and that, if the proposed increase was in effect during the aforesaid period, a profit would still have not been realized.

The increased rates and charges so proposed have not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon hearings concerning the lawfulness of the several proposed changes and that the above-designated supplements be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), public hearings be held upon dates to be fixed by notices from the Secretary concerning the lawfulness of the several proposed increased rates and charges contained in the above-designated supplements.

(B) Pending hearing and decision thereon, each of the said supplements tendered by Cities Service, Brown, Pan American, Huber, Superior, Excelsior, Kerr-McGee, and Stevens be and it is hereby suspended and the use thereof deferred until June 1, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(C) Pending hearing and decision thereon, the said supplement tendered by General Crude be and it is hereby suspended and the use thereof deferred until June 2, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(D) Pending hearing and decision thereon, the said supplement tendered by Pure be and it is hereby suspended and the use thereof deferred until June 3, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(E) Pending hearing and decision thereon, each of the said supplements tendered by Shell, Taylor, and Westhoma be and it is hereby suspended and the use thereof deferred until June 4, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(F) Pending hearing and decision thereon, the said supplement tendered by Seewald be and it is hereby suspended and the use thereof deferred until June 7, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(G) None of the several supplements hereby suspended, nor the rate schedule sought to be altered thereby, shall be changed until the relevant proceeding has been disposed of or until the applicable period of suspension has expired, unless otherwise ordered by the Commission.

(H) Interested State commissions may participate as provided by §§ 1.8 or 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59–122; Filed, Jan. 6, 1959; 8:46 a. m.]

[1] This order does not provide for the consolidation for hearing or disposition of the several matters covered herein, nor should it be so construed.

[Docket No. G–17377]

HOWELL & HOWELL ET AL.

Order for Hearing and Suspending Proposed Change In Rate

DECEMBER 31, 1958.

Howell & Howell (Operator), et al. (Howell & Howell), on December 2, 1958, tendered for filing a proposed change in its presently effective rate schedule for the sale of natural gas subject to the jurisdiction of the Commission. The proposed change, which constitutes an increased rate and charge, is contained in the following designated filing:

Description: Notice of Change, dated December 1, 1958.

Purchaser: Tennessee Gas Transmission Company.

Rate schedule designation: Supplement No. 3 to Howell & Howell's FPC Gas Rate Schedule No. 1.

Effective date: January 2, 1959 (effective date is the first day after expiration of the required thirty days' notice).

In support of the increased rate, Howell & Howell states the original contract terms were a result of arm's-length bargaining and that the contract should be observed by the acceptance of the increased rate.

The increased rate and charge so proposed has not been shown to be justified and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the said proposed change, and that Supplement No. 3 to Howell & Howell's FPC Gas Rate Schedule No. 1 be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rate and charge contained in Supplement No. 3 to Howell & Howell's FPC Gas Rate Schedule No. 1.

(B) Pending such hearing and decision thereon, Supplement No. 3 to Howell & Howell's FPC Gas Rate Schedule No. 1 be and it is hereby suspended and the use thereof deferred until June 2, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplement hereby suspended nor the rate schedule sought to be altered thereby shall be changed until this proceeding has been disposed of or until the period of suspension has expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-123; Filed, Jan. 6, 1959; 8:46 a. m.]

[Docket No. G-17374]

SINCLAIR OIL AND GAS CO.

Order for Hearing and Suspending Proposed Change in Rate

DECEMBER 31, 1958.

Sinclair Oil and Gas Company (Sinclair), on December 4, 1958, tendered for filing a proposed change in its presently effective rate schedule [1] for the sale of natural gas subject to the jurisdiction of the Commission. The proposed change, which constitutes an increased rate and charge, is contained in the following designated filing:

Description: Notice of Change, dated December 1, 1958.

Purchaser: Natural Gas Pipe Line Company of America.

Rate schedule designation: Supplement No. 3 to Sinclair's FPC Gas Rate Schedule No. 139.

Effective date: January 23, 1959 (effective date is that proposed by Sinclair).

In support of the proposed periodic rate increase, Sinclair states that the proposed change in rate fulfills the contractual obligations of the parties and the increase will assist Sinclair in obtaining a return commensurate with the risks inherent in natural gas production.

The increased rate and charge so proposed has not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the said proposed change, and that Supplement No. 3 to Sinclair's FPC Gas Rate Schedule No. 139 be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rate and charge contained in Supplement No. 3 to Sinclair's FPC Gas Rate Schedule No. 139.

(B) Pending such hearing and decision thereon, said supplement be and it hereby is suspended and the use thereof deferred until June 23, 1959, and thereafter until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplement hereby suspended nor the rate schedule sought to be altered thereby shall be changed until this proceeding has been disposed of or until the period of suspension has expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-124; Filed, Jan. 6, 1959; 8:46 a. m.]

[1] The rates are currently in effect, subject to refund, in Docket No. G-14860.

[Docket No. G-17311]

ARGO OIL CORP.

Order for Hearing and Suspending Proposed Change in Rate

DECEMBER 31, 1958.

On December 1, 1958, Argo Oil Corporation (Argo), tendered for filing a proposed change in its presently effective rate schedule for the sale of natural gas subject to the jurisdiction of the Commission. The proposed change, which constitutes an increased rate and charge, is contained in the following designated filing:

Description: Notice of Change, undated.

Purchaser: Panhandle Eastern Pipe Line Company.

Rate schedule designation: Supplement No. 2 to Argo's FPC Gas Rate Schedule No. 29.

Effective date: January 1, 1959 (effective date is the date proposed by Argo).

In support of the proposed periodic rate increase, Argo cites the pertinent pricing provision of the contract.

The increased rate and charge so proposed has not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the proposed change, and that Supplement No. 2 to Argo's FPC Gas Rate Schedule No. 29 be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing shall be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rate and charge contained in Supplement No. 2 to Argo's FPC Gas Rate Schedule No. 29.

(B) Pending the hearing and decision thereon, the supplement is hereby suspended and the use thereof deferred until June 1, 1959, and thereafter until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplement hereby suspended nor the rate schedule sought to be altered shall be changed until this proceeding has been disposed of or until the period of suspension has expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-125; Filed, Jan. 6, 1959; 8:46 a. m.]

[Docket No. G-17310]

MILTON F. SHAFFER ET AL.

Order for Hearing and Suspending Proposed Changes In Rates

DECEMBER 31, 1958.

On December 1, 1958, Milton F. Shaffer (Operator), et al. (Shaffer), tendered for filing proposed changes in his presently effective rate schedules for the sales of natural gas subject to the jurisdiction of the Commission. The proposed changes, which constitute increased rates and charges, are contained in the following designated filings:

Description: Notices of Change, dated November 28, 1958.
Purchaser: Producing Properties, Inc.
Rate schedule designations: Supplement No. 8 to Shaffer's FPC Gas Rate Schedule No. 1. Supplement No. 1 to Shaffer's FPC Gas Rate Schedule No. 2.
Effective date: January 1, 1959 (effective date is that proposed by Shaffer).

In support of the proposed periodic increases, Shaffer cites the escalation provisions of the contract, states that the contract was negotiated at arm's-length and comments that the proposed increases are similar to others in the same general area.

The increased rates and charges so proposed have not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the proposed changes, and that Supplement No. 8 to Shaffer's FPC Gas Rate Schedule No. 1 and Supplement No. 1 to Shaffer's FPC Gas Rate Schedule No. 2 be suspended and the use thereof deferred as herinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing shall be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rates and charges contained in Supplement No. 8 to Shaffer's FPC Gas Rate Schedule No. 1 and Supplement No. 1 to Shaffer's FPC Gas Rate Schedule No. 2.

(B) Pending the hearing and decision thereon, the supplements are hereby suspended and the use thereof deferred until June 1, 1959, and until such further time as each is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplements hereby suspended nor the rate schedules sought to be altered shall be changed until this proceeding has been disposed of or until the periods of suspension have expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-126; Filed, Jan. 6, 1959; 8:47 a. m.]

[Docket No. G-17331 etc.]

MAGNOLIA PETROLEUM CO. ET AL.

Order for Hearings and Suspending Proposed Changes In Rates [1]

DECEMBER 31, 1958.

In the matters of Magnolia Petroleum Company, Docket Nos. G-17331 and G-17332; Magnolia Petroleum Company (Operator), et al., Docket Nos. G-17333 and G-17334.

On December 1, 1958, Magnolia Petroleum Company (Magnolia) on its own behalf and, as operator, on behalf of itself and others, tendered for filing several proposed changes in its presently effective rate schedules for sales of natural gas subject to the jurisdiction of the Commission. These filings were each described as a Notice of Change and were undated. Each proposed January 1, 1959, as the effective date for the changes. The purchasers in each instance and the Supplement Number designations for each change in rate schedule are as follows:

Docket No.	Respondent	Rate Sched.	Supp. No.	Purchaser
G-17331	Magnolia Petroleum Co	93	7	Colorado Interstate Gas Co.
	Magnolia Petroleum Co	22	13	Colorado Interstate Gas Co.
	Magnolia Petroleum Co	94	9	Colorado Interstate Gas Co.
G-17332	Magnolia Petroleum Co	30	5	Tennessee Gas Transmission Co.
	Magnolia Petroleum Co	28	3	Tennessee Gas Transmission Co.
	Magnolia Petroleum Co	96	1	Tennessee Gas Transmission Co.
G-17333	Magnolia Petroleum Co. (operator) et al	49	10	Tennessee Gas Transmission Co.
G-17334	Magnolia Petroleum Co. (operator) et al	65	10	Tennessee Gas Transmission Co.

In support of these proposed redetermined rate increases, Magnolia submits a cost study. Several questionable items are involved in this study, including nonproducing properties in the rate base, income tax on more than the taxable income, and a 10 percent rate of return. Also in support, Magnolia states that the increases are provided in the contract; that gas rates should be determined on a commodity value basis; and that costs of discovery, development, and production of natural gas are rapidly increasing.

The increased rates and charges so proposed have not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon hearings concerning the lawfulness of the proposed changes, and that the designated supplements to Magnolia's FPC Gas Rate Schedules be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), public hearings shall be held upon dates to be fixed by notices from the Secretary concerning the lawfulness of the proposed increased rates and charges contained in Supplement Nos. 7, 13, 9, 6, 3 and 1 to Magnolia's FPC Gas Rate Schedule Nos. 93, 22, 94, 30, 28 and 96, respectively, and in Supplement Nos. 19 and 10 to Magnolia (Operator), et al.'s FPC Gas Rate Schedule Nos. 49 and 65, respectively.

(B) Pending the hearings and decisions thereon, the supplements are each hereby suspended and the use thereof deferred until June 1, 1959, and until such further time as they are made effective in the manner prescribed by the Natural Gas Act.

(C) None of the supplements hereby suspended nor the rate schedules sought to be altered shall be changed until the relevant proceeding has been disposed of or until the periods of suspension have expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-127; Filed, Jan. 6, 1959; 8:47 a. m.]

[1] This order does not provide and should not be construed as providing for the consolidation for hearing or disposition of the separately docketed matters.

[Docket No. G-17344]

SOUTH TEXAS OIL AND GAS CO.[1] AND PETROLEUM MORTGAGE CO.[1]

Order for Hearing and Suspending Proposed Change in Rate

DECEMBER 31, 1958.

On November 17, 1958, Petroleum Mortgage Company (Mortgagee) on behalf of South Texas Oil and Gas Company (South Texas), tendered for filing a proposed change in South Texas' presently effective rate schedule for sales of natural gas subject to the jurisdiction of

[1] Voluntary petition in bankruptcy by South Texas Oil and Gas Company in the United States District Court for the Southern District of Texas, was filed January 1958. Petroleum Mortgage Company is mortgagee in possession and operator of subject properties by court order.

the Commission. The proposed change, which constitutes an increased rate and charge, is contained in the following designated filing:

Description: Notice of Change, undated.
Purchaser: Tennessee Gas Transmission Company.
Rate schedule designation: Supplement No. 5 to South Texas' FPC Gas Rate Schedule No. 2.
Effective date: January 1, 1959 (effective date is that proposed by Respondent).

In support of the proposed redetermined increase in rate in the Morales Field, Jackson County, Texas, Mortgagee submitted cost data comprising estimated future costs of producing gas; cited the original contract containing provision for redetermination of the rate on January 1, 1959; claims South Texas' records to be inadequate in detail or unavailable with respect to construction of cost details in the Morales Field and stated that on a "payout" basis, Mortgagee will not recover its loan.

The increased rate and charge so proposed has not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the said proposed change, and that Supplement No. 5 to South Texas' FPC Gas Rate Schedule No. 2 be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rate and charge contained in Supplement No. 5 to South Texas' FPC Gas Rate Schedule No. 2.

(B) Pending such hearing and decision thereon, said supplement be and it is hereby suspended and the use thereof deferred until June 1, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplement hereby suspended, nor the rate schedule sought to be altered thereby, shall be changed until this proceeding has been disposed of or until the period of suspension has expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-128; Filed, Jan. 6, 1959; 8:47 a. m.]

[Docket No. G-17312]

RAVENCLIFFS DEVELOPMENT CO.

Order for Hearing and Suspending Proposed Change In Rate

DECEMBER 31, 1958.

On November 20, 1958, Ravencliffs Development Company (Ravencliffs) tendered for filing a proposed change in its presently effective rate schedule for sale of natural gas subject to the jurisdiction of the Commission. The proposed change, which constitutes an increased rate and charge, is contained in the following designated filing:

Description: Notice of Change, undated.
Purchaser: Amere Gas Utilities Company.
Rate schedule designation: Supplement No. 20 to Ravencliffs' FPC Gas Rate Schedule No. 1.
Effective date: January 1, 1959 (effective date is that proposed by Ravencliffs).

In support of the proposed redetermined rate increase, Ravencliffs' stated that the price redetermination clause of the contract is a partial hedge against inflation, that the contract was negotiated at arm's length, that operating costs have substantially increased during the past five years and that it cannot continue its future committed drilling program unless the proposed rate is accepted.

The increased rate and charge so proposed has not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the said proposed change, and that Supplement No. 20 to Ravencliffs' FPC Gas Rate Schedule No. 1 be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rate and charge contained in Supplement No. 20 to Ravencliffs' FPC Gas Rate Schedule No. 1.

(B) Pending such hearing and decision thereon, said supplement be and it is hereby suspended and the use thereof deferred until June 1, 1959, and until such further time as it is made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplement hereby suspended, nor the rate schedule sought to be altered thereby, shall be changed until this proceeding has been disposed of or until the period of suspension has expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-129; Filed, Jan. 6, 1959; 8:47 a. m.]

[Docket No. G-17368]

SHELL OIL CO.

Order for Hearing and Suspending Proposed Change In Rate

DECEMBER 31, 1958.

Shell Oil Company (Shell), on December 3, 1958, tendered for filing a proposed change in its presently effective rate schedule [1] for the sale of natural gas subject to the jurisdiction of the Commission. The proposed change, which constitutes an increased rate and charge, is contained in the following designated filing.

Description: Notice of Change, dated December 1, 1958.
Purchaser: El Paso Natural Gas Company.
Rate schedule designation: Supplement No. 5 to Shell's FPC Gas Rate Schedule No. 15.
Effective date: January 8, 1959 (effective date is the first day after the required thirty days' notice).

In support of the proposed favored-nation increase, Shell states that the favored-nation provision was part of a good faith, arm's-length transaction and through the operation of the provision Shell sought to protect itself against future increased costs.

The increased rate and charge so proposed has not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the said proposed change, and that Supplement No. 5 to Shell's FPC Gas Rate Schedule No. 15 be deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rate and charge contained in Supplement No. 5 to Shell's FPC Gas Rate Schedule No. 15.

(B) Pending such hearing and decision thereon, said supplement be and it is hereby suspended and the use thereof deferred until June 3, 1959, and thereafter until such further time as it is made

[1] Rate currently in effect subject to refund in Docket No. G-12951.

effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplement hereby suspended nor the rate schedule sought to be altered thereby shall be changed until this proceeding has been disposed of or until the period of suspension has expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-130; Filed, Jan. 6, 1959; 8:47 a. m.]

[Docket No. G-17347]

L. R. FRENCH, JR. ET AL.

Order for Hearing and Suspending Proposed Changes In Rates

DECEMBER 31, 1958.

L. R. French, Jr. (Operator), et al. (French), on December 4, 1958, tendered for filing two proposed changes in his presently effective rate schedules for sales of natural gas subject to the jurisdiction of the Commission. The proposed changes, which constitute increased rates and charges are contained in the following designated filings:

Description: Notices of Change, dated December 3, 1958.

Purchaser: El Paso Natural Gas Company.

Rate schedule designations: Supplement No. 2 to French's FPC Gas Rate Schedule No. 3. Supplement No. 6 to French's FPC Gas Rate Schedule No. 4.

Effective date: January 4, 1959 (effective date is the first day after expiration of the required thirty days' notice).

In support of these favored nation rate increases, French states they are provided in the contract, are reasonable, and were negotiated at arm's length. French also states that the price of gas is lower than that of competitive fuels. French also urges a commodity value-market place standard for gas prices. It is further claimed that even the increased rate will not compensate for rising costs of field goods and exploration and development. French submits comparative price date for the area.

The increased rates and charges so proposed have not been shown to be justified, and may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is necessary and proper in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the Commission enter upon a hearing concerning the lawfulness of the proposed changes and that Supplement Nos. 2 and 6 to French's FPC Gas Rate Schedule Nos. 3 and 4, respectively, be suspended and the use thereof deferred as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), a public hearing shall be held upon a date to be fixed by notice from the Secretary concerning the lawfulness of the proposed increased rates and charges contained in Supplement Nos. 2 and 6 to French's FPC Gas Rate Schedule Nos. 3 and 4, respectively.

(B) Pending the hearing and decision thereon, these supplements are hereby suspended and the use thereof deferred until June 4, 1959, and until such further time as they are made effective in the manner prescribed by the Natural Gas Act.

(C) Neither the supplements hereby suspended nor the rate schedules sought to be altered shall be changed until this proceeding has been disposed of or until the period of suspension has expired, unless otherwise ordered by the Commission.

(D) Interested State commissions may participate as provided by §§ 1.8 and 1.37 (f) of the Commission's rules of practice and procedure (18 CFR 1.8 and 1.37 (f)).

By the Commission.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-131; Filed, Jan. 6, 1959; 8:47 a. m.]

[Docket No. G-6377]

KERR-McGEE OIL INDUSTRIES, INC.

Notice of Application and Date of Hearing

DECEMBER 31, 1958.

Take notice that Kerr-McGee Oil Industries, Inc. (Applicant), an independent producer with its principal place of business in Kerr-McGee Building, 306 North Robinson, Oklahoma City 2, Oklahoma, filed, on November 29, 1954, an application for a certificate of public convenience and necessity, pursuant to section 7 (c) of the Natural Gas Act, authorizing the Applicant to sell natural gas as hereinafter described, subject to the jurisdiction of the Commission, all as more fully represented in the application which is on file with the Commission and open to public inspection.

Applicant sells natural gas to Phillips Petroleum Company for resale in interstate commerce from the Guymon-Hugoton Field, Texas County, Oklahoma, under an oral contract.

Applicant's written understanding of the oral agreement was filed with the Commission on November 29, 1954, and is on file as Kerr-McGee's FPC Gas Rate Schedule No. 16.

This matter is one that should be disposed of as promptly as possible under the applicable rules and regulations and to that end:

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act, and the Commission's rules of practice and procedure, a hearing will be held on February 10, 1959 at 9:30 a. m., e. s. t., in a hearing room of the Federal Power Commission, 441 G Street NW., Washington, D. C., concerning the matters involved in and the issues presented by such application: *Provided, however,* That the Commission may, after a non-contested hearing, dispose of the proceedings pursuant to the provisions of § 1.30 (c) (1) or (2) of the Commission's rules of practice and procedure. Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicant to appear or be represented at the hearing.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington 25, D. C., in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before January 30, 1959. Failure of any party to appear at and participate in the hearing shall be construed as waiver of and concurrence in omission herein of the intermediate decision procedure in cases where a request therefor is made.

[SEAL] JOSEPH H. GUTRIDE, *Secretary.*

[F. R. Doc. 59-132; Filed, Jan. 6, 1959; 8:47 a.m.]

INTERSTATE COMMERCE COMMISSION

FOURTH SECTION APPLICATIONS FOR RELIEF

JANUARY 2, 1959.

Protests to the granting of an application must be prepared in accordance with Rule 40 of the general rules of practice (49 CFR 1.40) and filed within 15 days from the date of publication of this notice in the FEDERAL REGISTER.

LONG-AND-SHORT HAUL

FSA No. 35160: *Motor-water rates—Seatrain Lines, Inc.* Filed by Seatrain Lines (No. 7), for itself and on behalf of the Missouri Pacific Freight Transport Company. Rates on various commodities loaded in containers of Seatrain Lines, Inc., between New Brunswick and Wharton, N. J., and points taking the same rates, on the one hand, and Bay City and Velasco, Texas, and points taking the same rates, on the other.

Grounds for relief: Rail-water, water-rail, and rail-water-rail competition, and grouping.

Tariff: Supplement 1 to Seatrain Lines, Inc., tariff I. C. C. 165, MF-I. C. C. 1.

FSA No. 35161: *Coal from the south to Cincinnati, Ohio.* Filed by The Southern Railway Company (No. 139-A), for interested rail carriers. Rates on coal, carloads, from mines in east Tennessee, southeast Kentucky, and southwest Virginia to Cincinnati, Ohio and points taking the same rates.

Grounds for relief: Market and rail carrier competition.

Tariff: Supplement 62 to Southern Railway Tariff I. C. C. A-11352.

FSA No. 35162: *Clay from points in the south.* Filed by O. W. South, Jr., Agent (SFA No. A3759), for interested rail carriers. Rates on clay, processed,

in bags, barrels or bulk, carloads from points in Florida, Georgia, Mississippi, North Carolina, and South Carolina to points in southern, official (including Illinois), and western trunk line territories.

Grounds for relief: Short line distance formula and grouping.

Tariff: Supplement 122 to Southern Freight Association tariff I. C. C. 1491.

FSA No. 35163: *Rock salt from Morton, Ohio, to South Charleston, W. Va.* Filed by O. E. Schultz, Agent (ER No. 2474), for interested rail carriers. Rates on rock salt, loose in bulk, carloads from Morton, Ohio to South Charleston, W. Va.

Grounds for relief: Market competition.

Tariff: Supplement 75 to Traffic Executive Association-Eastern Railroads, Agent, tariff I. C. C. 4198 (Hinsch Series).

FSA No. 35164: *Sugar from Colorado to Texas.* Filed by Southwestern Freight Bureau, Agent (No. B–7448), for interested rail carriers. Rates on sugar, beet or cane, carloads from Colorado and Southern Railway stations in Colorado to Texas and New Orleans Railroad stations in Texas.

Grounds for relief: Rail carrier competition.

Tariff: Supplement 37 to Southwestern Lines Tariff I. C. C. 4057.

FSA No. 35165: *Cotton boll ashes from Altus, Okla., to the south.* Filed by Southwestern Freight Bureau, Agent (No. B–7450), for interested rail carriers. Rates on ashes, cotton boll, burr or seed hull, carloads from Altus, Okla., to points in southern territory.

Grounds for relief: Market competition, short line distance formula.

Tariff: Supplement 33 to Southwestern Lines tariff I. C. C. 4290.

FSA No. 35166: *Petroleum wax from Port Arthur, Tex., to Laurel, Miss.* Filed by Southwestern Freight Bureau, Agent, (No. B–7451), for interested rail carriers. Rates on petroleum wax, carloads from Port Arthur and West Port Arthur, Tex., to Laurel, Miss.

Grounds for relief: Market and truck competition.

Tariff: Supplement 178 to Southwestern Lines tariff I. C. C. 4118.

FSA No. 35167: *Lumber from Glendale, Oreg., to Klamath Falls, Oreg.* Filed by The Southern Pacific Company (No. 364), for itself and on behalf of the Oregon, California & Eastern Railway Company. Rates on rough green lumber, carloads from Glendale, Oreg., to Klamath Falls, Oreg.

Grounds for relief: Intrastate truck competition.

Tariff: 21st Revised Page 51–B of Southern Pacific Company (Pacific Lines) Freight Tariff I. C. C. 4364.

FSA No. 35168: *Citrus fruit juices from points in Florida.* Filed by O. W. South, Jr., Agent, (SFA No. A3758), for interested rail carriers. Rates on citrus fruit juices and related articles, carloads from Brooksville and Umatilla, Fla., to points in southern, official (including Illinois), and western trunk line territories.

Grounds for relief: Short line distance formula, grouping and market competition.

Tariff: Southern Freight Association, Agent, tariff I. C. C. S–42.

FSA No. 35169: *Vegetable meal and related articles in the Southeast.* Filed by Southwestern Freight Bureau, Agent, (No. B–7453), for interested rail carriers. Rates on vegetable cake or meal, whole pressed cottonseed, and related articles, in carloads between points in the Southwest; between points in the Southwest, on the one hand, and points in western trunk line and Mississippi Valley territories, on the other; between points in western trunk line (including Illinois) territories, and between points in western trunk line and Illinois territories, on the one hand, and points in Mississippi Valley territory, on the other.

Grounds for relief: Motor truck competition.

By the Commission.

[SEAL] HAROLD D. McCOY, *Secretary.*

[F. R. Doc. 59–136; Filed, Jan. 6, 1959; 8:49 a. m.]

[Notice 250]

MOTOR CARRIER APPLICATIONS

JANUARY 2, 1959.

The following applications are governed by the Interstate Commerce Commission's special rules governing notice of filing of applications by motor carriers of property or passengers and by brokers under sections 206, 209, and 211 of the Interstate Commerce Act and certain other procedural matters with respect thereto.

All hearings will be called at 9:30 o'clock a. m., United States standard time, unless otherwise specified.

APPLICATIONS ASSIGNED FOR ORAL HEARING OR PRE-HEARING CONFERENCE

MOTOR CARRIERS OF PROPERTY

No. MC 1124 (Sub No. 149), filed October 24, 1958. Applicant: HERRIN TRANSPORTATION COMPANY, a Texas corporation, 2301 McKinney Avenue, Houston, Tex. Applicant's attorney: Leroy Hallman, First National Bank Building, Dallas 2, Tex. Authority sought to operate as a *common carrier*, by motor vehicle, transporting: *General commodities*, except household goods as defined by the Commission, serving the site of the Calcasieu Paper Company plant located near Elizabeth, La., approximately 10 miles northwest of Oakdale, La., as an off-route point in connection with applicant's authorized regular route operations between Alexandria, La., and Iowa, La., over U. S. Highway 165. Applicant is authorized to conduct operations in Louisiana, Texas, Arkansas, Tennessee, Oklahoma, and Florida.

HEARING: February 11, 1959, at the Federal Office Bldg., 600 South St., New Orleans, La., before Joint Board No. 164, or, if the Joint Board waives its right to participate, before Examiner Reece Harrison.

No. MC 1882 (Sub No. 16), filed July 25, 1958. Applicant: WELLS TRUCKWAYS, LTD., 710 East Garvey Avenue, Monterey Park, Calif., Mail: P. O. Box 6799, Los Angeles, Calif. Applicant's attorney: Marvin Handler, 465 California Street, San Francisco 4, Calif. Authority sought to operate as a *common carrier*, by motor vehicle, over regular routes, transporting: *General commodities*, except those of unusual value, Class A and B explosives, household goods as defined by the Commission, commodities in bulk other than citrus fruits and agricultural commodities, and commodities requiring special equipment other than those requiring refrigeration or specialized handling or rigging because of size or weight, (1) between San Diego, Calif., and El Centro, Calif., over U. S. Highway 80; (2) between Mesa, Ariz., and Lordsburg, N. Mex., over U. S. Highway 70; (3) between Tucson, Ariz., and El Paso, Tex., from Tucson over U. S. Highway 80 to Benson, Ariz., thence over Arizona Highway 86 to the Arizona-New Mexico State line, thence over New Mexico Highway 14 to the junction of U. S. Highway 80, thence over U. S. Highway 80 to El Paso, and return over the same route, (4) between Douglas, Ariz., and Lordsburg, N. Mex., from Douglas over U. S. Highway 80 to the junction of New Mexico Highway 9, thence over New Mexico Highway 9 to the junction of New Mexico Highway 338, thence over New Mexico Highway 338 to the junction of U. S. Highway 80, thence over U. S. Highway 80 to Lordsburg, and return over the same route, serving all intermediate points on routes 2, 3 and 4 outlined above, and those off-route points in Arizona within 5 miles of the above specified routes. Applicant is authorized to conduct operations in Arizona, California, Colorado, and New Mexico.

HEARING: February 12, 1959, at the Federal Bldg., Los Angeles, Calif., before Examiner F. Roy Linn.

No. MC 13250 (Sub No. 64), filed November 4, 1958. Applicant: J. H. ROSE TRUCK LINE, INC., P. O. Box 16037, 3804 Jensen Drive, Houston, Tex. Applicant's attorney: Charles D. Mathews, 1020 Brown Bldg., P. O. Box 858, Austin 65, Tex. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (1) *Airplanes, airplane engines, airplane parts and related materials* and *supplies* when their transportation is incidental to the transportation by said carrier of airplanes, airplane engines and airplane parts; and (2) *mobile unit trailers equipped with scientific instruments or scientific equipment and the contents thereof* (but excluding house trailers and/or mobile homes), in truckaway service, between points in Arkansas, California, Kansas, Louisiana, New Mexico, Oklahoma, Texas, Arizona, Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota, Nebraska, Idaho, Nevada, Washington and Oregon, including ports in Washington and Oregon on export and import of the described commodities to and from Alaska. Applicant

is authorized to conduct operations in Texas, Louisiana, Arkansas, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Idaho, Nevada, and California.

HEARING: February 12, 1959, at the Federal Office Building, Franklin & Fannin Sts., Houston, Tex., before Examiner Isadore Freidson.

No. MC 22195 (Sub No. 67), filed December 22, 1958. Applicant: DAN S. DUGAN, doing business as DUGAN OIL AND TRANSPORT CO., P. O. Box 949–41st Street and Grange Avenue, Sioux Falls, S. Dak. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Petroleum and petroleum products*, as described in Appendix XIII to report in *Descriptions in Motor Carrier Certificates*, 61 MCC 209, in bulk, in tank vehicles, from Hastings, Minn., to the site of the United States Air Force Base near Grand Forks, N. Dak., and the site of the United States Air Force Base near Minot, N. Dak., and *rejected shipments* of petroleum and petroleum products, on return. Applicant is authorized to conduct operations in Iowa, South Dakota, Minnesota, North Dakota, and Nebraska.

HEARING: January 12, 1959, in Room 926, Metropolitan Bldg., Second Avenue South and Third St., Minneapolis, Minn., before Joint Board No. 24.

No. MC 55878 (Sub No. 5), filed November 5, 1958. Applicant: NATIONAL FREIGHT, INC., 122 Wood Street, Vineland, N. J. Applicant's attorney: Irving Abrams, 1776 Broadway, New York 19, N. Y. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Such commodities* as are transported in dump trucks and can be unloaded by dumping, from piers and wharves in Port Newark, N. J., and New York, N. Y., to Belle Mead, N. J. Applicant is authorized to conduct regular route operations in Delaware, New Jersey, New York and Pennsylvania, and irregular route operations in Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, North Carolina, Rhode Island, South Carolina, and Virginia, and the District of Columbia.

HEARING: February 16, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 59759 (Sub No. 10), filed November 18, 1958. Applicant: FOOD PRODUCTS TRUCKING CO., 500 West Edgar Road, Linden, N. J. Applicant's representative: Bert Collins, 140 Cedar Street, New York 6, N. Y. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: (1) *Such merchandise* as is dealt in by wholesale, retail and chain grocery and food business houses and in connection therewith *equipment, materials and supplies used in the conduct of such business*, between Linden, N. J., on the one hand, and, on the other, points in Middlesex, New Haven and New London Counties, Conn., and Broome County, N. Y.; (2) *Potato chips, pretzels, salted nuts* and *bakery goods*, from Philadelphia, Pa., to points in Middlesex, New Haven and New London Counties, Conn., and Broome County, N. Y., and *returned shipments of the same commodities and containers* used in the outbound transportation, from points in Middlesex, New Haven and New London Counties, Conn., and Broome County, N. Y., to Philadelphia, Pa. Applicant is authorized to conduct operations in New York, New Jersey, Connecticut, Maryland, Pennsylvania, and Delaware.

NOTE: Applicant states that the operations proposed will be limited to a transportation service under a continuing contract or contracts with Food Fair Stores, Inc.

HEARING: February 19, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 67646 (Sub No. 49), filed December 9, 1958. Applicant: HALL'S MOTOR TRANSIT COMPANY, a corporation, Fifth and Vine Streets, Box 738, Sunbury, Pa. Applicant's attorney: John E. Fullerton, 131 State Street, Harrisburg, Pa. Authority sought to operate as a *common carrier*, by motor vehicle, over regular routes, transporting: *General commodities*, except those of unusual value, Class A and B explosives, household goods as defined by the Commission, commodities in bulk, and those requiring special equipment, (1) between Mt. Pleasant Mills, Snyder County, Pa., and McAlisterville, Juniata County, Pa., over Pennsylvania Highway 35, serving all intermediate points; and (2) between junction Pennsylvania Highways 35 and 235 and Beaver Springs, Snyder County, Pa., over Pennsylvania Highway 235, serving all intermediate points. Applicant is authorized to conduct operations in Maryland, New Jersey, New York, Ohio, and Pennsylvania.

HEARING: January 30, 1959, at the Offices of the Interstate Commerce Commission, Washington, D. C., before Examiner Reece Harrison.

No. MC 89262 (Sub No. 1), Respondent: STANLEY KULIKOWSKI, River Road, Hadley, Mass. Proceedings instituted under Section 212 (c) of the Interstate Commerce Act, published March 6, 1958, in the FEDERAL REGISTER at page 1614 covering operations authorized to the subject carrier in Permit No. MC 89262 dated April 7, 1955, authorizing the transportation as a *contract carrier*, over irregular routes, of *Fertilizer*, and *fertilizer materials*, during the season extending from February 1 to July 31, inclusive, between Hartford and East Hartford, Conn., on the one hand, and, on the other, points in Hampden, Hampshire, and Franklin Counties, Mass.

NOTE: An order of the Commission dated December 12, 1958, in No. MC–C 2195 Stanley Kulikowski—Revocation of Permit, provides in part, and requires the carrier to appear for hearing, and then and there show cause if any there be why an order should not be entered requiring him to comply with the order of the Commission dated September 10, 1957, requiring all contract carriers holding permits issued on or before August 22, 1957, to make and file duly verified statements in response to a questionnaire, to reinstitute operations under Permit No. MC 89262 within a reasonable time, and to comply with the applicable provisions of the Act, or in the alternative, that the Permit No. MC 89262 be revoked.

HEARING: February 6, 1959, at the New Post Office & Court House Bldg., Boston, Mass., before Joint Board No. 22, or, if the Joint Board waives its right to participate, before Examiner Walter R. Lee.

No. MC 92983 (Sub No. 332), filed November 24, 1958. Applicant: ELDON MILLER, INC., 330 E. Washington Street, Iowa City, Iowa. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Acids* and *chemicals* (except those acids and chemicals also described as a petroleum or petroleum product), in bulk, from points in the Kansas City, Mo., Commercial Zone, as defined by the Commission, to points in Iowa, Kansas, Minnesota, Missouri, Nebraska and Oklahoma. Applicant is authorized to conduct operations in Alabama, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, West Virginia, and Wisconsin.

HEARING: January 20, 1959, at the New Hotel Pickwick, Kansas City, Mo., before Examiner Allan F. Borroughs.

No. MC 96751 (Sub No. 2) EX, filed December 15, 1958. Applicant: ELEANORE W. COFFIN, doing business as KENNETH C. COFFIN, New Street, Siasconset, Nantucket, Mass. For a Certificate of Exemption (BMC 72) under section 204 (a) (4a) part II of the Interstate Commerce Act, authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (1) *Furniture, baggage, farm products, road building, grading* and *waste material, coal, coke* and *wood*, between points on the Island of Nantucket, Mass.; (2) *Furniture*, between points in Massachusetts; (3) *Property* in containers and bundles, *rubbish*, between points on the Island of Nantucket, Mass.

HEARING: February 5, 1959, at the New Post Office & Court House Bldg., Boston, Mass., before Examiner Walter R. Lee.

No. MC 105755 (Sub No. 8), filed November 5, 1958. Applicant: MICHAEL KOBYLASKI, doing business as M. K. TRUCKING, Pine Island, N. Y. Applicant's attorney: Martin Werner, 295 Madison Avenue, New York 17, N. Y. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (1) *Fertilizer* (other than liquid fertilizer in bulk in tank vehicles,) from Englishtown, N. J., to points in Orange County, N. Y., (2) *lime*, from points in Sussex County, N. J., to points in Orange County, N. Y., and (3) *empty containers or other such incidental facilities* (not specified) used in transporting fertilizer and lime on return. Applicant is authorized to conduct operations in New Jersey and New York.

HEARING: February 13, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 107002 (Sub No. 134), filed October 13, 1958. Applicant: W. M. CHAMBERS TRUCK LINE, INC., 920 Louisiana Boulevard, P. O. Box 547, Kenner, La. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Tallow*, in bulk, in tank vehicles, from points in Jefferson, Orleans, and St. Bernard Parishes, La., to points in Texas, Oklahoma, Arkansas, Louisiana, Tennessee, Mississippi, Alabama, Georgia, and Florida. Applicant is authorized to conduct operations in Alabama, Arkansas, Connecticut, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, West Virginia, Wisconsin, and the District of Columbia.

HEARING: February 11, 1959, at the Federal Office Building, 600 South Street, New Orleans, La., before Examiner Reece Harrison.

No. MC 112497 (Sub No. 128), filed December 4, 1958. Applicant: HEARIN TANK LINES, INC., 6440 Rawlins Street, Baton Rouge, La. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Acids* and *chemicals*, in bulk, in tank and hopper vehicles, from Iberville and West Baton Rouge Parishes, La., to points in North Carolina. Applicant is authorized to conduct operations in Alabama, Arkansas, California, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, and Virginia.

HEARING: February 11, 1959, at the Federal Office Building, 600 South Street, New Orleans, La., before Examiner Reece Harrison.

No. MC 113533 (Sub No. 11), filed November 3, 1958. Applicant: WARREN P. KURTZ, doing business as LAKE REFRIGERATED SERVICE, 8901 Tonnelle Avenue, North Bergen, N. J. Applicant's attorney: Wilhelmina Boersma, 2850 Penobscot Building, Detroit 26, Mich. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Citrus products*, not canned and not frozen, *frozen citrus products*, and *reconstituted citrus juices*, from Queenstown, Md., to points in Kentucky, Ohio, Indiana, Michigan, Illinois, Wisconsin, Iowa, Minnesota, Kansas, Missouri, Connecticut, Rhode Island, Massachusetts, Maine, Vermont, New Hampshire, and Ports of Entry on the boundary between the United States and Canada at or near Niagara Falls and Buffalo, N. Y., and Port Huron, Detroit and Sault Ste. Marie, Mich. Applicant is authorized to conduct operations in New York, Ohio, Michigan, Pennsylvania, Connecticut, Rhode Island, Massachusetts, New Jersey, New Hampshire, Illinois, and Indiana.

NOTE: Applicant states on return trips it will transport those commodities which he is presently authorized to transport, which are exempt.

HEARING: February 11, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 113533 (Sub No. 12), filed November 3, 1958. Applicant: WARREN P. KURTZ, doing business as LAKE REFRIGERATED SERVICE, 8901 Tonnelle Avenue, North Bergen, N. J. Applicant's attorney: Wilhelmina Boersma, 2850 Penobscot Building, Detroit 25, Mich. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen pies*, (1) from Chambersburg, Pa., to points in Indiana, Illinois, Missouri, Kentucky, Ohio, Michigan and West Virginia; and (2) from Frankfort, Mich., to points in Minnesota, Iowa, Kansas, Nebraska, Wisconsin and Oklahoma. Applicant is authorized to conduct operations in New York, Ohio, Michigan, Pennsylvania, Connecticut, Rhode Island, Massachusetts, New Jersey, New Hampshire, Illinois, and Indiana.

NOTE: Applicant states on return trips it will transport those commodities which he is presently authorized to transport, which are exempt.

HEARING: February 12, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 113779 (Sub No. 82), filed October 27, 1958. Applicant: YORK INTERSTATE TRUCKING, INC., 9020 Laporte Expressway, P. O. Box 12385, Houston 17, Tex. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Rosin sizings*, derived from forest products, in tank vehicles, between Oakdale, La., and Baytown, Tex., and points within five (5) miles of each. Applicant is authorized to conduct operations in all of the United States except Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, and the District of Columbia.

HEARING: February 9, 1959, at the Federal Office Bldg., Franklin & Fannin Sts., Houston, Tex., before Joint Board No. 32, or, if the Joint Board waives its right to participate, before Examiner Isadore Freidson.

No. MC 114123 (Sub No. 16), filed December 8, 1958. Applicant: HERMAN R. EWELL, INC., East Earl, Lancaster County, Pa. Applicant's attorney: Andrew Wilson Green, Pennsylvania State Chamber of Commerce Building, 222 North Third Street, Harrisburg, Pa. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Corn syrup and mixtures of liquid or invert sugar and corn syrup*, in bulk, in tank vehicles, (1) from Yonkers, N. Y., to Moundsville and Wheeling, W. Va.; (2) from the plant site of Refined Syrups and Sugars, Incorporated, in Yonkers, N. Y., to Martinsburg, W. Va., and Berryville, Mount Jackson, Timberville, and Winchester, Va.; (3) from Yonkers, N. Y., to Strasburg, Va.; (4) from Philadelphia, Pa., to points in Ohio. Applicant is authorized to conduct operations in New York, West Virginia, Virginia, Pennsylvania and Ohio.

NOTE: Applicant states that it is presently authorized to perform the above transportation for the commodity of liquid sugar in MC 114123 Subs 2 and 6. The present application desires this authority commodity-wise to include corn syrup and mixtures of corn syrup and liquid or invert sugar.

HEARING: January 30, 1959, at the Offices of the Interstate Commerce Commission, Washington, D. C., before Examiner Charles H. Riegner.

No. MC 115921 (Sub No. 3), filed November 19, 1958. Applicant: CHEMICAL SALT SERVICE, INC., 64 Waltham Avenue, Springfield, Mass. Applicant's representative: William L. Mobley, Rooms 317-319, 1694 Main Street, Springfield, Mass. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Rock salt*, from points in Albany, Columbia, Greene and Rensselaer Counties, N. Y., to points in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. Applicant is authorized to conduct operations in New York, Connecticut, Massachusetts, Rhode Island, and Vermont.

HEARING: February 5, 1959, at the New Post Office & Court House Bldg., Boston, Mass., before Examiner Walter R. Lee.

No. MC 117728, filed October 20, 1958. Applicant: H AND S TRUCKING COMPANY, a Texas corporation, 1618 South Zarzamora Street, San Antonio 7, Tex. Applicant's attorney: Richard C. Keene, 2014 Transit Tower, San Antonio 5, Tex. Authority sought to operate a *common carrier*, by motor vehicle, over irregular routes, transporting: *Canned and processed foods*, from San Antonio, Tex., to San Francisco, San Diego and Los Angeles, Calif., and Phoenix, Ariz., and *ingredients for canned and processed foods* and *exempt commodities* on return.

HEARING: February 11, 1959, at the Federal Office Building, Franklin and Fannin Streets, Houston, Tex., before Examiner Isadore Freidson.

No. MC 117804, filed November 5, 1958. Applicant: LOUIS H. RAAB, 313 Main Street, South River, N. J. Applicant's attorney: Herman B. J. Weckstein, 1060 Broad Street, Newark 2, N. J. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Gravel*, sand, and slag, from Morrisville, Pa., to points in New Jersey.

NOTE: Applicant states the proposed operations will be under a continuing contract with Sebolt, Inc.

HEARING: February 16, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 117817, filed November 10, 1958. Applicant: LESTER L. SMITH, doing business as L. L. SMITH HAULING, Harmony Road, East Keansburg, Middletown Township, N. J. Applicant's representative: William J. Van Pelt, same address as applicant. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Fish meal, fish scrap, fish oil*, and *fish oil residuum*, from Belford, N. J., to the site of the Ralston Purina Company, Shiremanstown, Pa., and *empty containers or other such incidental facilities* used in transporting the above-specified commodities, on return.

HEARING: February 13, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 117817 (Sub No. 1), filed November 10, 1958. Applicant: LESTER L. SMITH, doing business as L. L. SMITH HAULING, Harmony Road, East Keansburg, Middletown Township, N. J. Applicant's representative: William J. Van Pelt, same address as applicant. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Fish meal, fish scrap, fish oil, and fish oil residuum*, from Belford, N. J., to the site of the McMillen Feed Mills, Lower Allen Township, Cumberland County, Pa., and *empty containers or other such incidental facilities* used in transporting the above-specified commodities, on return.

HEARING: February 13, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 117831, filed November 12, 1958. Applicant: S. SISKIND & SONS, INC., 1574 Watson Avenue, Bronx 72, N. Y. Applicant's attorney: Irving Abrams, 1776 Broadway, New York 19, N. Y. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Baggage*, between New York, N. Y., points in Nassau, Suffolk, and Westchester Counties, N. Y., points in Bergen, Essex, Hudson, Middlesex and Union Counties, N. J., on the one hand, and, on the other, camp sites located in Albany, Chenango, Delaware, Dutchess, Greene, Orange, Putnam and Sullivan Counties, N. Y., those in Litchfield and New London Counties, Conn., those in Wayne and Pike Counties, Pa., those in Berkshire County, Mass., and those in Sussex County, N. J.

NOTE: Applicant states that no service is to be authorized between points in Bergen, Essex, Hudson, Middlesex and Union Counties, N. J., on the one hand, and, on the other, points in Sussex County, N. J., or to or from the site of Camp Echo Lark located at or near Poyntelle, Pa.

HEARING: February 17, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

No. MC 117852, filed November 17, 1958. Applicant: HAROLD F. WILLIARD, doing business as HAROLD'S GARAGE, 19 Holyoke Street, Northampton, Mass. Applicant's representative: William L. Mobley, Rooms 317–319, 1694 Main Street, Springfield 3, Mass. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Wrecked, disabled or damaged automobiles, busses, trucks, trailers, semi-trailers or tractors*, in truckaway service, between points in Berkshire, Franklin, Hampshire and Hampden Counties, Mass., on the one hand, and, on the other, points in Connecticut, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

HEARING: February 4, 1959, at the New Post Office & Court House Bldg., Boston, Mass., before Examiner Walter R. Lee.

No. MC 117887, filed November 24, 1958. Applicant: JEPTHA L. KOLB, 2451 Law Street, New Orleans, La. Applicant's attorney: Harold R. Ainsworth, National Bank of Commerce Building, New Orleans 12, La. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Structural steel*, from points in Jefferson, Orleans, Plaquemines, and St. Bernard Parishes, La., to points in Mississippi.

HEARING: February 12, 1959, at the Federal Office Building, 600 South St., New Orleans, La., before Joint Board No. 28, or, if the Joint Board waives its right to participate, before Examiner Reece Harrison.

No. MC 117969, filed December 4, 1958. Applicant: STANLEY J. SMITH, doing business as STANLEY J. SMITH TRUCKING SERVICE, P. O. Box 126, Sikes, La. Applicant's attorney: William D. Brown, 400 South Grand Street, Monroe, La. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Lumber, poles* and *pilings*, and *forest products*, from points in Winn and La Salle Parishes, La., to points in Texas, Arkansas, Mississippi, Missouri, Kansas, Tennessee, and Oklahoma.

HEARING: February 9, 1959, at the Federal Office Building, 600 South St., New Orleans, La., before Examiner Reece Harrison.

No. MC 118282 (Sub No. 1), filed December 15, 1958. Applicant: THEODORE V. FALL, doing business as TED FALL TRUCKING, N. Lake Street, Lake City, Pa. Applicant's attorney: Arthur J. Diskin, 302 Frick Building, Pittsburgh 19, Pa. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen pies*, from Lake City, Pa., and *frozen baby foods*, from Conneaut Township, Crawford County, Pa., to points in New York, Ohio, West Virginia, New Jersey, Maryland, Delaware, Virginia, South Carolina, North Carolina, Georgia, Tennessee, Kentucky, Illinois, Indiana, Wisconsin, Michigan, Massachusetts, Connecticut, Rhode Island, Arkansas, Missouri, Texas, Florida, Louisiana, Alabama, and the District of Columbia.

HEARING: February 10, 1959, at the Offices of the Interstate Commerce Commission, Washington, D. C., before Examiner Charles H. Riegner.

MOTOR CARRIERS OF PASSENGERS

No. MC 3647 (Sub No. 246), filed December 9, 1958. Applicant: PUBLIC SERVICE COORDINATED TRANSPORT, a corporation, 180 Boyden Avenue, Maplewood, N. J. Applicant's attorney: Richard Fryling, General Counsel, Law Dept.-Public Service Coordinated Transport (same address as above). Authority sought to operate as a *common carrier*, by motor vehicle, over regular routes, transporting: *Passengers and their baggage*, and *express* and *newspapers* in the same vehicle with passengers, between Nutley, N. J., and Clifton, N. J.: from junction Passaic Ave., and Kingsland Road, Nutley, N. J., over Passaic Ave., to junction Main Ave., Clifton, N. J., thence over Main Ave., to access roads leading to and from New Jersey Highway 3, and return over the same route, serving all intermediate points. Applicant is authorized to conduct operations in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and the District of Columbia.

HEARING: February 9, 1959, at the N. J. Board of Public Utility Commissioners, State Office Bldg., Raymond Blvd., Newark, N. J., before Joint Board No. 119.

No. MC 114757 (Sub No. 1), filed November 10, 1958. Applicant: EMPIRE BUS LINES, INC., 186 Smith Street, Poughkeepsie, N. Y. Applicant's attorney: Louis H. Shereff, 18 East 41st Street, New York, N. Y. Authority sought to operate as a *common carrier*, by motor vehicle, over regular routes, transporting: *Passengers and their baggage*, and *express, mail* and *newspapers*, in the same vehicle with passengers, (1) between Danbury, Conn., and New Haven, Conn., from Danbury over U. S. Highway 6 to the junction of Connecticut Highway 34, via Sandy Hook, thence over Connecticut Highway 34 to New Haven, and return over the same route, serving all intermediate points and the off-route points of Hawleyville and Bethel, Conn.; (2) between Danbury, Conn., and Haviland Hollow, N. Y., from Danbury over Connecticut Highway 37 to the intersection of Connecticut Highway 37A, thence over Connecticut Highway 37A to an unnumbered Connecticut road known as Fairfield Drive, thence along Fairfield Drive to the Connecticut-New York State line, thence over said unnumbered road to Haviland Hollow, and return over the same route, serving no intermediate points, as an alternate route for operating convenience only. Applicant is authorized to conduct operations in Connecticut and New York.

HEARING: February 19, 1959, at 346 Broadway, New York, N. Y., before Examiner David Waters.

APPLICATIONS IN WHICH HANDLING WITHOUT ORAL HEARING IS REQUESTED

MOTOR CARRIERS OF PROPERTY

No. MC 22195 (Sub No. 66), filed December 11, 1958. Applicant: DAN S. DUGAN, doing business as DUGAN OIL AND TRANSPORT CO., 41st Street and Grange Avenue, P. O. Box 946, Sioux Falls, S. Dak. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Petroleum and petroleum products*, as described in Appendix XIII to report in *Descriptions in Motor Carrier Certificates*, 61 MCC 209, in bulk, in tank vehicles, from Rock Rapids, Iowa, and points within five (5) miles thereof, to points in Minnesota on and west of a line beginning at the Iowa-Minnesota State line and extending along U. S. Highway 218 to Owatona, thence along U. S. Highway 65 to Northfield, thence along Minnesota Highway 19 to Winthrop, thence along Minnesota Highway 15 to Dassel, thence along U. S. Highway 12 to Willmar, thence along U. S. Highway 71 to Blackduck, and thence along Minnesota Highway 72 to the Canadian Boundary, and *rejected shipments* of the above-described commodities, on return. Applicant is authorized to conduct op-

erations in Iowa, South Dakota, North Dakota, Minnesota and Nebraska.

NOTE: Applicant states it is authorized to conduct operations from Sioux Falls and Watertown, S. Dak. to the Minnesota territory herein sought, also from Rock Rapids, Iowa to points in South Dakota, serving the Minnesota territory by use of gateways at Sioux Falls and Watertown; applicant states no additional authority is sought herein and that the sole purpose of the application is to eliminate wasteful transportation in its present use of gateways at Sioux Falls and Watertown, S. Dak.

No. MC 69901 (Sub No. 8), filed December 19, 1958. Applicant: NEWSOM TRUCKING COMPANY, INC., P. O. Box #509, U. S. Highway 31 Bypass, Columbus, Ind. Applicant's attorney: John E. Lesow, 3737 North Meridian Street, Indianapolis 8, Ind. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Iron or steel articles*, from Cleveland, Ohio to Fostoria, Ohio, for stoppage in transit at the Atlas Crankshaft Division of Cummins Diesel Sales Corporation for processing. Applicant is authorized to conduct operations in Indiana, Illinois, Iowa, Kentucky, Michigan, Minnesota, Missouri, New York, Ohio, Pennsylvania, West Virginia, and Wisconsin.

NOTE: Applicant states that it is authorized to transport the above commodities from all points in Ohio to Columbus, Ind., and this application is made for the purpose of obtaining authority, if such is required, to complete the transportation of forgings from Fostoria, Ohio to the Columbus, Ind., plant of the Cummins Engine Company, thereby providing for "stoppage in transit" of the movement which originates in Cleveland and is processed in Fostoria, Ohio.

No. MC 112584 (Sub No. 18), filed December 5, 1958. Applicant: FRED A. SHELTON, Copperhill, Tenn. Applicant's attorney: Blaine Buchanan, 1024 James Building, Chattanooga 2, Tenn. Authority sought to operate as a *common or contract carrier*, by motor vehicle, over irregular routes, transporting: *Sulphur dioxide*, in bulk, in tank vehicles, from Copperhill, Tenn., to Lugoff (near Camden), S. C. Applicant is authorized to conduct regular route operations in North Carolina and Tennessee, and irregular route operations in Alabama, Florida, Georgia, Mississippi, North Carolina, and Tennessee.

NOTE: A proceeding has been instituted under section 212 (c) in No. MC 112584 (Sub 17) to determine whether applicant's status is that of a common or contract carrier.

No. MC 116077 (Sub No. 61), filed December 18, 1958. Applicant: ROBERTSON TANK LINES, INC., 5700 Polk Avenue, Houston, Tex. Applicant's attorney: Thomas E. James, P. O. Box 858 (Brown Building), Austin 65, Tex. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Clay, clay slurry* and *clay products* (except dry fullers earth), in bulk, from points in Twiggs, Wilkinson, Washington and Decatur Counties, Ga., to points in Alabama and Florida. Applicant is authorized to conduct operations in Texas, Louisiana, Arkansas, Mississippi, Oklahoma, New Mexico, Idaho, Oregon, Washington, Alabama, Kansas, Missouri, Illinois, Tennessee, Arizona, California, Colorado, Indiana, Iowa, Kentucky, Minnesota, Nebraska, North Carolina, South Carolina, West Virginia, Wisconsin, Georgia, Florida, Ohio, South Dakota, North Dakota, Montana, Wyoming, Colorado, and Utah.

No. MC 118469, filed December 22, 1958. Applicant: ROY C. WALKER, Mapleton, Oreg. Applicant's attorney: William B. Adams, Pacific Building, Portland, Oreg. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Lumber*, between points within a 20-mile radius of Florence, Oregon.

APPLICATIONS UNDER SECTIONS 5 AND 210a (b)

The following applications are governed by the Interstate Commerce Commission's special rules governing notice of filing of applications by motor carrier of property or passengers under section 5 (a) and 210a (b) of the Interstate Commerce Act and certain other procedural matters with respect thereto (49 CFR 1.240).

MOTOR CARRIERS OF PROPERTY

No. MC-F 7026 (MIDWEST TRANSFER CO. OF ILLINOIS—CONTROL—PURITAN TRANSPORTATION CO., INC.), published in the November 5, 1958, issue of the FEDERAL REGISTER on page 8648. Application filed December 29, 1958, for temporary authority under section 210a (b).

No. MC-F 7054 (INTERNATIONAL TRANSPORT, INC. — PURCHASE — THOMAS C. DYER, INC.), published in the December 10, 1958, issue of the FEDERAL REGISTER on page 9583. Application filed December 23, 1958, for temporary authority under section 210a (b).

No. MC-F 7071. Authority sought for purchase by W. E. PITTMAN TRUCKING, INC., 1500 Rankin Highway, P. O. Box 83, Midland, Tex., of the operating rights of PERCY JONES, INC., P. O. Box 1083, Oklahoma City, Okla., and for acquisition by W. E. PITTMAN, also of Midland, of control of such rights through the purchase. Applicants' attorney: Leroy Hallman, 617 First National Bank Building, Dallas 2, Tex. Operating rights sought to be transferred: (a) *Machinery, materials, supplies*, and *equipment* incidental to, or used in the construction, development, operation, and maintenance of facilities for the discovery, development, and production of natural gas and petroleum, and petroleum refineries and gasoline plants, and (b) *pipe, pipe line materials, machinery*, and *equipment*, incidental to, or used in, the construction, repairing, or dismantling of gas, oil, gasoline, and water pipe lines, including the stringing of pipe, as a *common carrier* over irregular routes between points in Oklahoma, Kansas, Texas, New Mexico, and Louisiana. Vendee is authorized to operate as a *common carrier* in Oklahoma and Texas. Application has been filed for temporary authority under section 210a (b).

No. MC-F 7072. Authority sought for purchase by H. C. GABLER, INC., R. D. #3, Chambersburg, Pa., of a portion of the operating rights of GEORGE RUSSELL SEAL, Sunnyside Station, Winchester, Va., and for acquisition by HAROLD C. GABLER, also of Chambersburg, of control of such rights through the purchase. Applicants' attorney: Christian V. Graf, 11 North Front Street, Harrisburg, Pa. Operating rights sought to be transferred: *Apples and peaches*, as a *common carrier* over irregular routes, from Winchester, Va., to Washington, D. C., Baltimore, Md., and Pittsburgh, Pa.; *frozen fruits*, from Winchester, Va., to Washington, D. C., and Baltimore, Md.; *fruit products*, from Martinsburg, W. Va., to Winchester, Va., and from Winchester, Va., to Washington, D. C., Baltimore, Cumberland, and Frederick, Md., certain points in Pennsylvania and certain points in West Virginia; *barrel staves and diatomaceous earth*, from Baltimore, Md., to Martinsburg, W. Va.; *livestock*, from points in West Virginia to Winchester, Va., and from Winchester, Va., to Baltimore, Md., and points in Pennsylvania; *sugar, fertilizer, feeds and roofing*, from Baltimore, Md., to Winchester, Va.; *glass containers*, from Washington, Pa., and Huntington and Fairmont, W. Va., to Winchester, Va.; *onions and vinegar*, from Baltimore, Md., to Harrisonburg, Va.; *apple products, apple by-products*, and *prune juice*, from Winchester, Va., to Annapolis, Salisbury, Easton, Cambridge, Snow Hill, and Crisfield, Md., and between Winchester, Va., and Peach Glen, Pa. Vendee is authorized to operate as a *common carrier* in Pennsylvania, Maryland, Virginia, West Virginia, New Jersey, New York, and the District of Columbia. Application has not been filed for temporary authority under section 210a (b).

By the Commission.

[SEAL] HAROLD D. MCCOY, *Secretary.*

[F. R. Doc. 59-137; Filed, Jan. 6, 1959; 8:49 a. m.]

[Notice 67]

MOTOR CARRIER ALTERNATE ROUTE DEVIATION NOTICE

JANUARY 2, 1959.

The following letter-notices of proposals to operate over deviation routes for operating convenience only with no service at intermediate points have been filed with the Interstate Commerce Commission, under the Commission's Special Rules Revised, 1957 (49 CFR 211.1 (c) (8)) and notice thereof to all interested persons is hereby given as provided in such rules (49 CFR 211.1 (d) (4)).

Protests against the use of any proposed deviation route herein described may be filed with the Interstate Commerce Commission in the manner and form provided in such rules (49 CFR 211.1 (e)) at any time but will not operate to stay commencement of the proposed operations unless filed within 30 days from the date of publication.

Successively filed letter-notices of the same carrier under the Commission's Deviation Rules Revised, 1957, will be

numbered consecutively for convenience in identification and protests if any should refer to such letter-notices by number.

MOTOR CARRIERS OF PROPERTY

No. MC 13123 (Deviation No. 2), WILSON FREIGHT FORWARDING CO., 3636 Follett Avenue, Cincinnati 23, Ohio. Carrier proposes to operate as a *common carrier* by motor vehicle of *general commodities*, with certain exceptions, over a deviation route, between junction U. S. Highway 42 and Ohio Highway 142 and junction U. S. Highway 40 and Ohio Highway 142, as follows: from junction U. S. Highway 42 and Ohio Highway 142 over U. S. Highway 42 to junction U. S. Highway 40, thence over U. S. Highway 40 to junction Ohio Highway 142, and return over the same route, for operating convenience only, serving no intermediate points. The notice indicates that the carrier is presently authorized to transport the same commodities between junction U. S. Highway 42 and Ohio Highway 142 and junction Ohio Highway 142 and U. S. Highway 40 over Ohio Highway 142.

No. MC 29555 (Deviation No. 1), BRIGGS TRANSPORTATION CO., INC., 2360 W. County Road C, St. Paul 13, Minn., filed December 22, 1958. Carrier proposes to operate as a *common carrier* by motor vehicle of *general commodities*, with certain exceptions, over a deviation route, between Palatine, Ill., and Maywood, Ill., as follows: from Palatine over Illinois Highway 53 to junction U. S. Highway 20, thence over U. S. Highway 20 to Maywood and return over the same route, for operating convenience only, serving no intermediate points. The notice indicates that the carrier is presently authorized to transport the same commodities between Palatine, Ill., and Maywood, Ill., over the following pertinent route: from Palatine over U. S. Highway 14 to junction River Road, thence over River Road to junction 1st Avenue, thence over 1st Avenue to Maywood.

By the Commission.

[SEAL] HAROLD D. McCOY, *Secretary.*

[F. R. Doc. 59-138; Filed, Jan. 6, 1959; 8:49 a. m.]

OFFICE OF CIVIL AND DEFENSE MOBILIZATION

[OCDM (DPA) Request 55, DPAV-53 (b)]

DOWNING CRYSTAL CO.

Deletion from Membership in the Integration Committee on Critical Quartz Crystals

Pursuant to section 708 of the Defense Production Act of 1950, as amended, there is published the following deletion from the list of companies which have accepted the request to participate in the voluntary plan entitled, "Plan and Regulations of Signal Corps Covering the Integration Committee on Critical Quartz Crystals," as amended. The request and complete list of acceptances were published in 23 F. R. 8009, October 16, 1958.

Deletion

Downing Crystal Co.,
Westminster, Md.

(Sec. 708, 64 Stat. 818, as amended, 50 U. S. C. App. Sup. 2158; E. O. 10480, Aug. 14, 1953, 18 F R. 4939; Reorg. Plan No. 1 of 1958, 23 F. R. 4991, as amended; E. O. 10773, July 1, 1958, 23 F. R. 5061; E. O. 10782, Sept. 6, 1958, 23 F. R. 6971)

Dated: December 22, 1958.

LEO A. HOEGH, *Administrator.*

[F. R. Doc. 59-112; Filed, Jan. 6, 1959; 8:45 a. m.]

SECURITIES AND EXCHANGE COMMISSION

[File No. 70-3719]

COLUMBIA GULF TRANSMISSION CO. AND COLUMBIA GAS SYSTEM, INC.

Acquisition of Facilities and Related Securities of Non-Utility Company

DECEMBER 23, 1958.

The Columbia Gas System, Inc. ("Columbia"), a registered holding company, and Columbia Gulf Transmission Company ("Columbia Gulf"), a newly organized Delaware corporation and a subsidiary of Columbia, having filed joint applications-declarations, as amended, pursuant to sections 6 (b), 7, 10 and 12 (b) of the Public Utility Holding Company Act of 1935 ("Act") and Rules 45 and 50 promulgated thereunder with respect to, among other things, the acquisition by Columbia Gulf of substantially all of the assets of Gulf Interstate Gas Company ("Gulf Interstate"), a natural gas pipeline company, in exchange for shares of the common stock of Columbia and the assumption by Columbia Gulf of the liabilities of Gulf Interstate; and

A public hearing having been held after appropriate notice and the Commission having considered the record, and having this day issued its findings and opinion herein, on the basis of such findings and opinion:

It is ordered, That the applications-declarations, as amended, be and hereby are approved and permitted to become effective forthwith, subject to the terms and conditions prescribed in Rule 24 promulgated under the Act and to the reservation of jurisdiction with respect to (1) the number of shares of Columbia common stock to be issued to the holders of the preferred stock of Gulf Interstate in exchange for such shares of Columbia stock, the price at which such shares are to be reoffered to the public, and the fees and other remuneration to be received upon the sale to the public of such shares, (2) the remuneration to be received by the investment bankers for their agreement not to dispose of the shares of 6½ percent series of preferred stock of Gulf Interstate prior to July 1, 1959, except, upon liquidation of Gulf Interstate, in exchange for shares of common stock of Columbia or cash, and (3) the fees and expenses to be incurred in connection with the joint applications-declarations, as amended.

By the Commission.

[SEAL] ORVAL L. DUBOIS, *Secretary.*

[F. R. Doc. 59-133; Filed, Jan. 6, 1959; 8:47 a. m.]